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Presentation of the journal Présentation de la revue

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This journal has been published for six years, with twenty-two issues that include a valuable number of scientific articles written by researchers from all continents of the world, such as America, Europe, Africa and Asia.

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Cette revue est publiée depuis six ans, avec vingt-deux numéros qui comprennent un nombre précieux d'articles scientifiques rédigés par des chercheurs de tous les continents du monde, comme l'Amérique, l'Europe, l'Afrique et l'Asie.



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The Law of Bailment in Sudan: Comparative insights from English law and proposals for reform

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Abstract

Bailment is an important legal relationship that facilitates the temporary transfer of movable property possession. The transfer can be for different reasons, while ownership in all cases remains with the bailor. This paper examines the concept of bailment in both English and Sudanese law, with particular emphasis on its definition, legal nature, and practical applications. This study further investigates the main types of bailment, the duties imposed on bailees, and the varying standards of care required in different categories of bailment. Special attention is given to commercial bailees whose activities involve the possession or transportation of goods, including common carriers, warehouse companies and innkeepers. We also discuss the controversial situation of banks providing safe deposit box services. This paper compares the degree of liability imposed on bailees and explores the policy considerations underlying the stricter standards applied to certain categories, especially common carriers.

Through a comparative analysis of English and Sudanese legal principles, this study identifies several gaps and practical challenges affecting the regulation of bailment in Sudan.

The paper concludes by proposing a number of recommendations aimed at modernizing and strengthening the law of bailment in Sudan. These include legislative reforms, clearer rules governing commercial bailees, and the adoption of more comprehensive provisions related to warehouse operators, common carriers, and bank safe deposit box services. Such reforms would enhance legal certainty, improve property interest protection, and promote confidence in commercial transactions involving bailment.

Keywords: *Bailment, Bailor, Bailee, Standard of Care, Common Carriers, Sudanese Law.*

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1. Introduction

The law of bailment is an integral part of the broader framework of personal property and contract laws. It plays a fundamental role in both commercial and non-commercial transactions.

Despite its practical importance, bailment has received relatively limited scholarly attention in Sudan. The Sudanese Civil Transactions Act of 1984 contains comparatively brief provisions on bailment and leaves several important issues to judicial interpretation and legal doctrine. It does not cope with the contemporary commercial developments of bailment. On the other hand, English law has benefited from centuries of judicial decisions in establishing comprehensive principles on the creation of bailment, the rights and duties of the parties, the standard of care expected from different categories of bailees, and the allocation of the burden of proof where loss or damage occurs.

This paper presents a comparative study in the law of bailment in English and Sudanese law. It begins by examining the definition, essential characteristics, and legal classification of bailment. It then analyzes the main categories of bailment, with particular emphasis on commercial bailments involving common carriers, warehouse companies, and bank safe deposit box facilities. The paper further examines the duties of bailees, paying special attention to the standard of care required in different forms of bailment (Sheehan, 2019, pp. 239–251).

Finally, the paper identifies a number of legislative and practical shortcomings affecting the regulation of bailment in Sudan. It argues that greater legislative clarity is required, especially in relation to professional bailees who have possession of goods. This paper concludes by proposing reforms designed to strengthen the Sudanese legal framework, clarify the obligations and standards of care expected of commercial bailees, and provide more effective protection for both bailors and bailees in contemporary commercial transactions.

2. What is bailment?

The bailment relationship plays an important role in the daily normal life of individuals in society and in commercial transactions¹. Bailment comes under civil law or commercial law depending on the context and nature of a particular transaction. It can be without any commercial or financial qualities when it is used in a social or gratuitous context, thus coming under civil law. On the other hand, it can be a commercial relationship when used in a commercial context. This section discusses the definition of bailment under common law and Sudanese law.

2.1 Under common law

Bailment is a relationship that involves a contractual transfer of possession of certain movable property from the owner (bailor) to another person (bailee) (*Ashby v Tolhurst* [1937] 2 KB 242 (CA)). The relationship is entered into for a particular purpose, such as the bailment of a car with a repair shop for repair or the pledge of an item as security for payment of a debt. In the latter case, the pledgor is considered a bailor, and the pledgee is the bailee. Another example is handing over a jacket to a dry-cleaning shop for cleaning (Lin, 2014, pp. 192–193).

The fact of transfer of possession is very essential. It is the basic duty of the bailor to enable the bailee to have exclusive control, a sort of possession, over the bailed asset (Lin, 2014, p. 250). The bailor, however, as the owner, remains in constructive possession of the asset².

¹ In most of the countries that have a unified civil code, bailment is defined in general terms, whereas the commercial regulation and implications of bailment come under the commercial law.

² This means that the bailor can claim possession back at any time as long as ownership is still in him.

In the case of **Morris v C.W. Martin & Sons Ltd** ([1966] 1 QB 716, see also *Ashby v Tolhurst* [1937] 2 KB 242), Lord Denning described bailment as arising whenever:

“One person voluntarily takes possession of goods belonging to another”

The transfer of possession in bailment is temporary. Once the purpose of the transfer is accomplished or the term of the bailment expires, possession returns to the bailor.

We have a term bailment and a bailment at will. Term bailment is limited to a particular period of time and must last for the duration of its term (Bridge, 2002, p. 33). Early termination by the bailor may entitle the bailee to an award of damages. There can be early termination of a term bailment by agreement of both the bailor and the bailee.

A bailment at will, on the other hand, can be terminated by the bailor at any time. There can be an agreement on a notice to be given for a certain period prior to termination.

As for title to the bailed assets, both the bailor and the bailee have title. The bailor, as the owner, has a superior title, whereas the bailee has a lesser title (Lin, 2014, pp. 192–193).

It should be noted that only movable assets are subject to bailment, as they can be freely moved from one place to another ¹.

2.2 Under Sudanese law

The Civil Transactions Act, 1984 (CTA, 1984) provides for the bailment relationship. It is referred to as “Al Wadia’h”. This is also the name under Islamic Sharia².

Article 445(1) of the CTA, 1984, defines Al Wadia’h as “a contract whereby the owner authorizes another to safeguard his property, and the other complies with safeguarding the said property and to return it in kind”; Subsection (2) does state, however, that Al Wadia’h is the property given to a trustee to safeguard it.

Sudanese law focuses on the aspect of safeguarding property. The fundamental feature of bailment under Sudanese law is the trust reposed by the bailor in the bailee. The CTA, 1984, looks at the sole factor of “entrustment” apart from the purpose for which the property is entrusted. The purpose may be to merely keep the asset and return it, or to have possession of the asset to do certain tasks, such as to have possession of a car for doing certain repairs³. Under Sudanese law, the purpose of doing repairs, in this example, is separate and is identified in isolation of the bailment.

According to Article 446 of the CTA, 1984, Al Wadia’h can only be in items capable of being actually possessed. This excludes immovable property, such as land and things permanently attached to it. Under Article 449, Al Wadia’h is a trust in the hands of the bailee, and the bailee must compensate the bailor for any damages or losses that occur to the assets while under his possession.

3. Types of Bailment

Bailment can be classified in different ways according to the reference or criteria used for the classification. The broad classification divides bailment into general and special (commercial) bailment. There is another classification into gratuitous and paid bailment, and contractual and quasi-contractual bailment, to name a few. The standard of care required from the bailee in keeping the bailed assets differs according to the type of bailment. For the sake of our discussion, however, we will focus on classifying bailment as general bailment or special (commercial) bailment. We will also distinguish between commercial and gratuitous bailment.

¹ Although e.g. dematerialized securities may be subject to a similar regime (Beaves, 1998, p. 117).

² See Article 445 to 461 of the Sudanese Civil Transactions Act, 1984.

³ See *Mustafa Abbashar v Um Elhassan Khatir*, SLJR, (1966) at 123

3.1 General bailment

3.1.1 Bailment for the sole benefit of the bailor

This type of bailment occurs when only the bailor benefits from the transaction (Agrawal, 2005, p. 3). No benefit is received by the bailee. In this case, the bailee is required to exercise only a slight degree of care, and the bailor bears all expenses related to the custody and maintenance of the goods. For example, leaving a pet with a neighbour while the owner is away. Here, the pet owner is the bailor who benefits from the bailment, and the neighbour is the bailee who gets no benefit.

3.1.2 Bailment for the sole benefit of the bailee

An appropriate example is when someone borrows an asset from another party (Agrawal, 2005, p. 4). In such a case, the borrower is a bailee for whom the bailment works. The bailee owes a duty of utmost or great care to protect the bailed property.

3.1.3 Bailment for the mutual benefits of the bailor and the bailee

This is a bailment for the benefit of both the bailor and the bailee (Cheeseman, 2004, pp. 958-959). In this case, the bailee owes the duty of reasonable care, or the care that he exerts to protect his own assets, to protect the bailed assets. He will be liable for the assets that are lost, damaged, or destroyed because of his own negligence.

The mutual benefit of the bailor and bailee is the standard situation that arises in commercial bailment. Of course, the commercial nature of the transaction makes it a non-gratuitous bailment. In these arrangements, the bailor gets the benefit of having his assets safely kept, and the bailee will have the benefit of being paid for that.

3.2 Special bailment

This includes a variety of commercial bailments (Cheeseman, 2004, p. 957), such as common carriers, warehouse companies, and innkeepers. They follow most of the rules applicable to ordinary bailments.

3.2.1 Common carriers

They offer transportation services to the general public. These include commercial airlines, railroads, and public trucking companies. This is a bailment for the mutual benefit of the bailor and the bailee. The person shipping the goods is the bailor or consignor, the transporter is the bailee, and the person to whom the goods are shipped is the consignee.

Common carriers are held to a duty of strict liability. If the goods are lost, damaged, or stolen, the commercial carrier is liable, even if he was not at fault¹. This is a distinctive liability applicable to common carriers and differs from the standard applicable to other types of commercial bailment. In most types of commercial bailment, as we will see, the bailee is subject to the ordinary standard of care; i.e., he will not be liable unless he is negligent or did an intentional act.

Common carriers are not liable if the loss, damage, or destruction of goods is caused by an act of God, e.g. floods, an act of public enemy, an order of the government (statute, court decision, government regulations), an act of the shipper (improper packing), and if the inherent nature of the goods is that they are perishable. In the landmark case of *Coggs v Bernard*², Bernard agreed to carry several barrels of brandy belonging to Coggs. During unloading, one barrel was damaged, and a large quantity of brandy was lost due to Bernard's negligence³.

¹ See *China Pacific SA v Food Corporation of India* [1982] AC 939 (HL).

² (1703) 1 Ld Raym 909; 92

³ *Edwards v Newland & Co.* [1950] 2 KB 534.

The judgment in this case was famous because it systematically explained the law of bailment and contrasted the duties of various bailees, including common carriers. The case has become the basic authority for the principle that a common carrier bears an exceptionally high responsibility for goods entrusted to him. The level of liability announced in the case is that a common carrier is generally liable for loss or damage to goods, almost as an insurer, except where the loss is caused by an act of God (natural events that could not be prevented) or public enemies¹.

Common carriers can limit their liability to a stated amount in the bailment agreement.

3.2.2 Warehouse companies

These are the companies which are into the business of keeping the moveable property of individuals and businesses for payment of agreed fees. A relationship of a bailor and bailee arises once there is an agreement between the two parties; the owner of the goods is the bailor, and the warehouse company is the bailee². The agreement need not be in a specific formality but should reflect the mutual understanding of the parties to avoid any future disputes. It is advisable, for goods in large quantities or high value, and if storage is required for a long period, that the agreement be in writing. Warehouses are subject to the rights, duties, and liabilities of ordinary bailees. They owe a duty of reasonable care to protect the bailed assets. They are liable only for loss or damage to the assets caused by their own negligence or actions³. They are not liable for any loss or damage caused by the conduct or negligence of a third party.

3.2.3 Hotels and restaurants (innkeepers)

Under common law, they are subject to a high liability standard for loss caused to the personal property of guests⁴. They can avoid liability if a safe is provided in which valuable property may be kept, and the guests are aware of the existence of the safe. In the case of **Marvin v. Comfort Inn**, Marvin was a jewelry trader. He had in his possession a jewelry sample case that contained approximately \$150,000 worth of gems and jewels. Marvin requested the desk clerk to place the case in the safe provided by the inn, stating that the case was very valuable. The clerk didn't give Marvin a receipt for the case. The hotel is liable to keep only a worth of \$500 value for any guest who requests such a service. The innkeeper should give a receipt that plainly states this limitation of liability. Innkeepers have no liability for valuables that are not given to them for safekeeping. Moreover, innkeepers are required to post in every room and in the office, a printed copy of this and of all regulations relating to the conduct of guests. The hotel did not post this notice. When Marvin called for his case, it could not be located and was never recovered. He sued for damages. The question was: whether the hotel's liability was limited to \$500? The court decided, because no receipt was given to Marvin, he was unaware of the limitation; also no notice was displayed in the office. Therefore, the court decided that the hotel liability is not limited to \$500.

Article 459(1) of the CTA, 1984, states that innkeepers are responsible for all losses to the belongings of guests delivered to them for safekeeping. However, para 2 states that if the bailed things consist of valuables, money, or commercial papers, the innkeepers are not liable for their loss unless they are negligent, or they accepted to keep them with knowledge of their value, or refused to keep them without justification, or they caused the loss by means of grave fault from them or any of their employees⁵.

The Sudanese CTA, 1984, renders the innkeepers (restaurants and hotels) liable for any loss of items delivered for safekeeping. This refers to non-valuable items. The rule applied to valuable items delivered

¹ This includes all acts resulting from public enemy including the consequences of such acts. Examples, the act of war itself, any decisions issued by the authorities preventing trade with the enemy or prohibiting certain behaviors in time of war.

² Again, the agreement can be written or oral express or implied. Written agreement is always preferred.

³ *Ashby v Tolhurst* [1937] 2 KB 242 (CA).

⁴ See *Armistead v. Wilde* (1851) 17 QB 261.

⁵ This generally means that, if a safe for valuables is available in the hotel, the customer will be responsible for any loss resulting from not using the safe.

for safekeeping is that the innkeeper is responsible for their loss only if he accepts to keep them with knowledge of their value.

The innkeeper may not be liable if he is not aware that there are valuables among the items accepted for safekeeping. If the innkeeper refuses to accept the valuables for safekeeping without justification, he would be liable for their loss if the owner proved that he was ready to give the valuables for safekeeping, but the hotel or restaurant did not accept.

3.3 commercial (non-gratuitous) bailment

Commercial bailment is a bailment connected with a business or commercial transaction¹. Actually, its scope is much wider. It arises when the bailee receives a reward or consideration for safeguarding the goods or assets. It is basically characterised by monetary payment, or any other type of benefit to the bailee. The three types of bailment commercial transporters, warehouse companies, and innkeepers are therefore commercial bailments. The main attribute of this type of bailment is that a higher standard of care is expected from the bailee, which is reasonable care². However, in some cases, a high standard of care may be required. The bailor is entitled to indemnity for expenses incurred because of the wrongful act of the bailee related to the goods or assets. An example is hiring a car for a trip where the owner is paid money as compensation for the use of the car. This is considered a commercial bailment. The bailee must take reasonable care of the car (the care that he exercises in keeping his own assets) and return the car in the agreed condition. This means that he will be liable if the loss or damage is caused by his negligence. Other examples include storage in a warehouse where goods are stored in a warehouse for a storage fee, repair of a vehicle by a garage, where a garage is paid by the customer to repair the car and keep it to give it back in the agreed condition, or a dry cleaning service.

In the leading Sudanese case of **Mustafa Abbashar v. Um Elhassan Khatir**³, a goldsmith who was entrusted with gold ornaments for the purpose of remolding them in consideration of payment for work and labor. On demand for delivery of the ornaments by the Respondent, he alleged that they were stolen. The Respondent sued for the value of the ornaments and obtained a decree from the District Court. The application for revision to the Province Judge was dismissed, and an application was raised against the decision of the Province Judge.

The grounds for the appeal were that the applicant (the goldsmith) was not negligent in keeping the ornaments, and the decision was contrary to the law of bailment.

The court upheld the lower court's decision. The case was of bailment for works to be performed on the bailed article. The Court went on:

“A custodian for reward is bound to use due care and diligence in keeping and preserving the article entrusted to him by the bailor. The standard of care and diligence imposed on him is higher than that required of a gratuitous depository, and must be that care and diligence which a careful and vigilant man would exercise in his own chattel of a similar description and character in similar circumstances”

It was established by witnesses that door of the shop was not tightly closed, and that applicant kept the ornaments in a locally made safe which could easily be opened by a false key. In these circumstances, the court was correct to infer negligence on the part of the applicant and to conclude that he failed to use the high standard of care and diligence imposed upon him by the law in his capacity as a bailee for work and labor on the article bailed⁴.

¹ Most probably there subsists another relationship beside the bare bailment relationship.

² Houghland v PR Low Ltd. [1962] 1 QB 694 (CA).

³ See Mustafa Abbashar v Um Elhassan Khatir, SLJR, (1966) at 126

⁴ See also, Mitchell v Ealing LBC, [1979] 1 QB 1.

The Court referred to the obligations of a bailee for work and labor as stated by Paton, *Bailment in the Common Law*, p 338. According to Paton, the bailee is to take all reasonable precautions to safeguard the thing that is in his custody. He has to re-deliver it after work is done in the same condition, unless it is damaged without fault of the bailee, the duty of the bailee is only to take reasonable care.

The court decided that the applicant failed to take reasonable care to safeguard the article, and as such, he is liable to make good the loss which was caused to the bailor as a result of this wrongful act.

The higher duty of care in commercial bailment arises from the simple fact that the bailee is paid or receives a commercial benefit from the transaction. We have to bear in mind that, in commercial bailment both parties' benefit. Therefore, it is a type of mutual-benefit bailment. We referred to this type of bailment earlier when we considered general bailment from the perspective of benefit to the bailor, the bailee, or both.

3.4 Gratuitous bailment

This occurs when the bailor delivers goods to the bailee without any expectation of payment or any form of a reward¹. This is a type of social cooperation out of goodwill, in which the bailee offers his services without expecting any monetary benefit². An example is a friend agreeing to keep the laptop of his friend while he is traveling free of charge.

The distinction between commercial and gratuitous bailment is important because courts tend to apply a higher standard of care and liability in case of commercial bailment. Since commercial bailees receive payment or business benefit, they are expected to take greater precautions to protect the goods entrusted to them.

4. The standard of care and responsibility in commercial bailment

Commercial bailment plays a pivotal role in the development of trade and commerce. As we have seen, it helps to move goods and assets from one place to another, including quite long distances, store goods for certain purposes and periods, and provide confidence for owners who entrust their assets for repair or enhancement in any way. The Sudanese CTA, 1984, correctly refers to bailment (*Al Wadia'h*) as a relationship in which the bailee is a trustee for the assets under his possession.

The law treats the trust embodied in a bailment relationship as a trust of varying degrees. Consequently, the degree of care expected of a bailee differs from one bailment to another.

If we draw a comparison between the different types of bailment, we will see that common transportation companies or commercial carriers are burdened with the heaviest duty of care and responsibility for any loss or damage to the bailed property.

If we compare commercial transporters with warehouse companies and innkeepers, we will find that commercial carriers have a higher standard of care and responsibility.

In the case of **Forward v Pittard**³, the court reaffirmed the traditional common law rule that a common carrier is liable for the goods at all events, except where the loss results from an act of God or public enemies. The carrier remained liable even though he was free from negligence⁴. There are many justifications for this situation. First, they hold themselves out as capable of transporting goods from one place to another, which is by itself a great responsibility. Second, there is a greater risk of loss, damage, or theft for goods and assets when they are moving rather than when they are in a static condition in one place. Third, the goods become completely out of the owner's observation when they are being moved to a

¹ This is broadly governed by customary practices and usages of personal and social relations, but these do not guarantee that a dispute may not arise for a reason or another.

² Bailment for the sole benefit of the bailee, however, may provide a heavier social burden on the bailee.

³ 1 (1785) T.R. 27. 99 E.R. 953 (King's Bench).

⁴ A common carrier is not merely required to exercise reasonable care but he is subject to a form of strict liability. The case is particularly useful when comparing common carriers with other bailees such as warehouse operators and innkeepers.

different place. The owner bailor is usually absent during transportation and can not observe what happens to the property. Fourth, international trade, which relies heavily on reliable transportation, has a significant share in the development of commerce. It is of paramount importance to promote confidence and trust in the transportation of goods and assets.

For these reasons, commercial carriers are said to have a very high standard of care that is almost similar to strict liability. At the same time, innkeepers are subject to a degree of high care for their guests' property, but generally not to the same level as commercial carriers. As we have explained, innkeepers' degree of liability depends on the circumstances, knowledge, and agreement of the parties. For example, the liability of innkeepers for valuables depends on their knowledge of the existence of these valuables, that is, the customer has drawn the attention of the innkeeper to their existence or delivered them for safekeeping. There are no similar limitations or qualifications on the liability of commercial carriers.

Conversely, warehouse companies are subject to the standard of ordinary reasonable care in safeguarding the assets of owners' bailors. They will be liable only if they are negligent or commit an intentional act that causes the loss.

5. The situation of bank safe deposit boxes

It is a known practice that customers deal with banks to provide a safe environment to their belongings. This is usually done through taking a safe deposit box in a bank. The debate continues on the nature of the legal relationship between a bank and a customer when the latter agree with the bank to have a safe deposit box. The main question here is that, does a bailment relationship arise in this situation?

. The answer to this question depends on the type of arrangement between the bank and customer and the interpretation of any written agreement signed between them. No doubt the relationship between the bank and the customer in this case is contractual (Lord, 1983, p. 263). The bank usually has a standard form agreement to be signed by the customer. If the customer rents a safe deposit box from the bank and keeps a key, a court may be reluctant to consider it as a bailment. For a bailment to arise there should be a complete transfer of possession with exclusive control to the bailee. The bailee should be the only person who have possession and control of the assets during the bailment. As the customer still have the possession and control (through having the key), no bailment arises. The situation will be considered as a rent or lease of a space by the customer from the bank.

In a safe deposit box, the bank usually doesn't know what is inside the box, and doesn't have exclusive control over the contents. Also the customer opens the box by himself and deposit whatever he wants to save in it without delivery to the bank. This is a strong evidence that the relationship is not a bailment relationship, as it lacks a very basic characteristic of bailment.

It should be noted, however, that a bank usually controls how the relationship is described, and avoids to mention specifically that it is bailment. It will tend to reduce its liability (Lord, 1983, p. 267).

On the other hand, bailment may arise in a situation when a customer delivers valuables or documents directly to the bank for safekeeping and the bank keeps custody of them. In this situation the bank becomes a bailee and owes a duty of care regarding the assets of the customer.

If we compare the practice in different jurisdictions, under English law courts examine the degree of possession and control by the bank. If the customer alone has access to the box and the bank only provides secure space, the relationship is a lease of space not a bailment. On the other hand, if the bank retains control on the access and custody of the contents, a bailment may arise. Therefore, it depends on the contractual arrangements and the extent of the bank' control to decide whether the transaction is a bailment or not.

In this regard, courts in the United States have more tendency to describe the relationship as bailment. They refuse the lessor -lessee description as they consider the bank to be in possession of the box. Maybe they act under an undeclared policy of considering the customer as the weaker party, and thus burdening

the bank with defying the negligence liability. In the final analysis, however, there is a split of opinions in the United States on the nature of a safe deposit box arrangement between the bank and its customer¹.

In Sudan, as we mentioned, the situation is governed by the provisions of Al Wadia'h under the CTA, 1084. Under which a person receives property from another and undertake to preserve and return it². Again, if the customer merely rents a safe and retains control over its contents, the relationship is more of renting a secure space. We have to bear in mind that the bank still has a duty regarding the security of the facility. This fact, however, doesn't change the description of the relationship in the absence of delivery and control of the contents of the box.

As for the liability, it makes a substantial difference between considering a bank as a lessor of a space or a bailee. This may be relevant from a theoretical analysis point of view, without a major effect on the ultimate result.

If the bank is regarded only leasing a space to the customer, the bank mainly provides the safe deposit box and maintain access to it. The bank doesn't take possession and usually doesn't even know the contents of the items inside the box. In this case, the bank is not responsible for the loss or damage to the contents. The burden of proof is on the customer to prove that the loss resulted from the banks' negligence, such as inappropriate security measures or the lock can be easily broken because it is defective. Liability of the bank in this case is therefore limited.

If the bank is regarded as a bailee, it will be entrusted with the customer's assets. A duty of care will arise for the bank to exercise a reasonable degree of care in keeping the customer's property. The bank will be required to explain the loss or damage once the goods were delivered and were in the possession of the bank. The standard of care is higher than the lease case because in bailment the bank is showing that it is providing a secure custody.

The basic issue in the difference between liability in case of lease of space by the bank and bailment is the burden of proof when there is a damage or loss. The basic question is who bears the burden of proof. Under a lease situation the burden of proof is on the customer not the bank. The customer has to prove the fact of the loss, the loss resulted from the bank's negligence, and that negligence caused the loss. It is not enough that the customer only shows that the property is damaged or lost.

Under a bailment situation, the burden of proof is shifted to be on the bank. The customer only needs to show that, the property was entrusted to the bank, and was not returned or was returned with some damages. The burden remains on the bank to explain what happened, and show that it exercised due care, and the loss didn't happen as a result of its negligence. Of course, if the loss happens a result of act of God, such as floods, or other events beyond the control of the bank, the bank will not be liable.

The real situation in most jurisdictions is that, the bank doesn't know the contents of the box. For this reason, many courts are reluctant to apply the full bailment rules. Nevertheless, because the bank controls the premises, security systems, and access procedures, courts frequently require the bank to explain how an unauthorized access or loss could have occurred.

Therefore, even where the relationship is characterized as a lease, once the customer proves that property was lost under suspicious circumstances, the bank will usually need to produce evidence of its security measures and lack of negligence. The practical difference is that, under bailment this obligation arises more readily and often as a matter of legal presumption, whereas under lease the customer generally bears the primary burden of proving negligence.

In summary, the bank may end up defending itself in either case, but bailment makes it easier for the customer by shifting the burden of proof.

¹ Jewelers Mutual Ins. Co. v. Firstar Bank of Ill., 792 N.E.2d 1 (Ct. App. 2003)

² See Article 445(1) of the CTA, 1984.

6. Conclusion

In Sudan, the civil Transactions Act, 1984, provides the broad rules governing bailment (Al Wadia'h). The provisions embodied in these rules are not satisfactory from a commercial point of view. They only cover the civil law aspect which falls short of satisfying the demands of the commercial transactions. Therefore, a need arises for a special statutory regime for bailment either separately or as part of a comprehensive commercial transactions law. This will provide clarity through a unified reference and avoids the reliance on different sources such as the general rules governing bailment, contractual obligations, civil liability rules and banking practices. Moreover, it will ensure consistency in treating different cases involving the rights of bailors and bailees.

The law will also provide for special forms of bailment such as warehousing, transportation, innkeepers, in addition to resolving the ambiguity surrounding the safe deposit box service.

It is of great importance to give more attention to documentation of bailment relationships. Informal bailments based on trust are often difficult to prove. When disputes arise, it may be difficult to prove whether the goods were actually delivered, the condition of the goods at delivery, the agreed purpose of bailment, and whether payment was agreed.

Therefore, documentation should be encouraged as it enables to write down all the relevant facts and the points of agreement between the parties and their expectations.

A debated issue is whether the relationship between a bank and a customer renting a safe- deposit box constitutes bailment. Since the bank often does not know the contents of the box and may not have possession of them, courts and legal writers may analyze the relationship differently from ordinary bailment. On the other side, we have the customers who relied on the bank as a safe environment and reposed a trust on it to safeguard their valuables. Situations like this make it necessary to enact a more detailed legislation.

There needs be a wider use of insurance by bailees such as warehouses, transport companies, and storage facilities to obtain insurance against loss, theft and damage. The parties should agree contractually on insurance responsibilities and reach a consent on the relevant risk allocation.

Faster court procedure, establishment of specialized courts, and encouragement of alternative dispute resolution mechanisms such as mediation and arbitration would be a substantial addition to the efforts of enhancement. A fair and timely resolution of disputes plays an important role in the development of commerce in general and in bailment especially.

These measures, taken together, would increase legal certainty, reduce disputes, and improve confidence in bailment.

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Mitigating Face-Threatening Acts in Moroccan EFL Textbooks: A Case Study of Ticket to English 2

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Abstract

Although Moroccan EFL textbooks are designed in alignment with communicative and functional language use, it has been noticed that there is a significant gap in how Textbooks address Face-Threatening Acts (FTAs) and provide learners with appropriate politeness and mitigation strategies. This study aims to explore how EFL Ticket to English 2 textbook, designed for second year Baccalaureate level, provides strategies to mitigate FTAs appropriately. A quantitative content analysis is adopted to examine how FTAs such as refusals, complaints, apologizing, requests, and disagreements are presented in dialogues and communication activities, particularly within social and communicative functions. Additionally, it aims to assess the extent to which learners are exposed to appropriate politeness strategies based on Brown and Levinson's (1987) Politeness Theory. The findings offer insights for Moroccan EFL textbook designers and educators to give greater priority for the integration of pragmatic competence and politeness strategies into teaching language functions and real-life interactions.

Keywords: *EFL textbooks; Face-Threatening Acts; politeness strategies; Ticket to English 2 textbook.*

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1. Introduction

Aligned with the standards-based approach to teaching English as a foreign language in Morocco, a great emphasis is stressed on helping learners use English in a variety of contexts and for diverse purposes. The emphasis on the 5Cs—Communication, Cultures, Connections, Comparisons, and Communities—has strongly influenced syllabus design, and the teaching of functions (i.e., social and rhetorical) has become an integral part of many EFL materials and textbooks, with the aim of raising learner's communicative and pragmatic competence (Ministry of National Education, 2007). Yet, pragmatics presents a complex challenge, deeply anchored in linguistic and cultural factors. Within the Moroccan context, in spite of the increasing scholarly interest in the study of pragmatics, most research primarily quantifies speech acts without considering the learners' ability in receiving pragmatic input (Bouknify & Anasse, 2024). Although Moroccan EFL textbooks such as *Ticket to English 2* are designed to enhance communicative and functional language use. However, there is a significant gap in how Face-Threatening Acts (FTAs), how politeness and mitigation strategies are reflected in the textbook. This gap may limit students' ability to engage in socially appropriate communicative contexts. Moreover, insufficient exposure to politeness strategies can bring about communication failure in intercultural interactions. Several studies reveal a significant disparity between pragmatic findings and the effectiveness of textbooks for teaching communicative skills. Bouknify and Anasse (2024) examined how textbooks promote pragmatic competence and evaluate the pragmatic content in EFL textbooks used in Moroccan high schools from 2006-2007. Their study aimed to assess the depth and quality of pragmatic information covered in these textbooks. The study focused on politeness, appropriateness, and usage, as well as how textbook authors present speech acts. However, the study findings reveal that the selected textbooks provide insufficient pragmatic information lacking depth and quality in the presentation of real-life communicative norms. Their study suggested the need for considering pragmatics during the textbook design process and enhance teachers' abilities to incorporate them into their classrooms.

Bouknify (2025) investigated Moroccan high school learners' pragmatic competence in English as a Foreign Language (EFL) to assess students' ability to perform various speech acts appropriately in context-sensitive scenarios. The findings show significant weaknesses in learners' pragmatic awareness and performance, especially in areas such as politeness, indirectness, and socio-cultural appropriateness. These findings highlight the need to integrate direct pragmatics instruction and assessment into Moroccan EFL curricula to improve learners' communicative performance.

Ed-deraouy and Sakale Sana (2024) investigated how pragmatic input functions in Moroccan EFL contexts, with a focus on *sociopragmatic* and *pragmalinguistic* knowledge. The study employed a mixed-methods approach, examining the pragmatic competence of 30 students, including both English majors and non-English majors from various schools in Morocco. The findings demonstrated that Moroccan EFL students have a moderate overall awareness of pragmatics yet reveal significant deficiencies in sociopragmatic awareness. The study also shows that students are well aware of and exposed to authentic materials, especially through media, yet they do not focus on the pragmatic aspects of language in favor of other skills such as grammar and vocabulary. The results highlight the need for curricula that integrate pragmatic elements more holistically, particularly pragmatic instruction, thereby paving the way for future research to refine educational strategies and enhance pragmatic proficiency.

Hmouri (2022) investigated Moroccan high school EFL learners' apologizing strategies based on a theoretical framework of politeness strategies and the Cross-Cultural Speech Act Realization Patterns (CCSARP) model. The study found that although learners are generally aware of apologizing expressions, they often struggle to choose appropriate strategies according to social distance, power dynamics, and cultural norms. The findings revealed a gap between learners' grammatical knowledge and pragmatic performance, highlighting the necessity of teaching politeness and pragmatic norms explicitly in the EFL classroom to help learners use language appropriately and effectively in several social interactions.

Choraih et al. (2016) examined the importance of pragmatic competence in the EFL curriculum. The study revealed that current EFL teaching and curriculum designs have traditionally emphasized grammar, overlooking pragmatic knowledge. Consequently, learners still fail to communicate effectively in real interactions although they may be able to produce linguistically correct utterances. The authors demonstrated that integrating pragmatic awareness into the curriculum can help bridge this gap, contributing to better communicative and pragmatic competence.

In the aforementioned studies (Choraih et al., 2016, Hmouri, 2022; Ed-deraouy & Sakale Sana, 2024; Bouknify & Anasse, 2024; Bouknify, 2025), it was reported that Moroccan high school English textbooks reflect limited pragmatic input, specifically in relation to speech acts and politeness strategies. This gap is significant for the present study because Face-Threatening Acts (FTAs) represent a crucial component of pragmatic competence. By analyzing *Ticket to English Textbook 2*, the extent to which FTAs are presented and mitigated in the textbook can address the deficiency identified by the previous studies. In this respect, the current study aims to explore how EFL *Ticket to English 2* textbook, designed for second year Baccalaureate level, provide strategies to mitigate Face-Threatening Acts (FTAs) appropriately. Thus, the study will proceed with three research questions:

- **Research Question 1:** To what extent does the *Ticket to English 2* textbook present a balanced distribution of FTAs across communicative activities?
- **Research Question 2:** How are politeness strategies represented and distributed in the *Ticket to English 2* textbook?
- **Research Question 3:** Does The *Ticket to English 2* textbook emphasize mitigated expressions more than direct FTA in communicative activities?

To answer the aforementioned questions, a quantitative content analysis was adopted to examine how FTAs and politeness strategies are presented in dialogues and communication activities, particularly within social and communicative functions in *Ticket to English 2*.

2. Literature Review and Theoretical Framework

2.1 Brown and Levinson's (1987) Face-Threatening Acts (FTAs)

Politeness Theory is rooted in Goffman's (1967) notion of "Face" in social interaction. According to Brown and Levinson (1987), "face" is "the public self-image that every member wants to claim for himself, consisting of two related aspects: negative face and positive face" (p.61). Positive face designates the desire to be liked, appreciated, and approved by interactants. While negative face refers to freedom of action and freedom from imposition (Brown & Levinson, 1987, p. 61). In this regard, Brown and Levinson (1987) claimed that social interaction or communication inevitably involves acts that may threaten the speaker's

or the hearer's face, known as Face-Threatening Acts (FTAs) (Brown & Levinson, 1987, p. 68). These acts emerge whenever a speech act such as criticism, disagreement, or complaints threatens the hearer's self-image or social value (FTA to positive face), or challenges the hearer's autonomy and freedom through acts such as requests or orders (Brown & Levinson, 1987, p. 314). Politeness strategies, therefore, aim to manage or mitigate these FTAs in order to maintain social harmony, demonstrate respect and avoid conflict in communication (Brown & Levinson, 1987, p. 68).

2.2 Brown and Levinson's (1978) Politeness Strategies

According to politeness theory led by Brown and Levinson (1978), linguistic politeness maintains proper social interaction in which "interlocutors try to protect their positive public self-image and want to be seen as valuable members of the society" (Njuki & Ileri, 2021, p.1). Brown and Levinson (1978) introduce four politeness strategies that are employed in social communication to reduce the effects of face threats (p. 69). These strategies involve off-record, bald-on-record, positive politeness, and negative politeness.

An off-record politeness strategy occurs when the speaker communicates indirectly using metaphor, rhetorical questions, irony, and all kinds of hints in order not to convey their intention clearly (Brown & Levinson, 1978, p.69). For example, "if I say 'Damn, I'm out of cash, I forgot to go to the bank today, ' I may be intending to get you to lend me some cash, but I cannot be held to have committed myself to that intent" (Brown & Levinson, 1978, p.69).

Bald on-record politeness strategy involves "doing an act badly in the most direct, clear, unambiguous and concise way possible" (Brown & Levinson, 1978, p.69). For instance, "for a request, saying 'Do X!'" is bald on-record, which reflects no politeness strategy used, no mitigating, just a direct statement or command (Brown & Levinson, 1978, p.69). This politeness strategy is highly aligned with Grice's Maxims of Cooperation (Grice 1967, 1975), which emphasize being direct and clear in communicating messages (Brown & Levinson, 1978, p.69).

Positive politeness strategy is oriented to the positive face of the listener, who desires to be liked, approved of, and admired. Positive politeness, therefore, aims to support the listener's face by showing that the speaker cares about the listener's needs and feelings (Brown & Levinson, 1978, p. 70). In alignment with FTAs like request or criticism, positive politeness reduces the threat since the speaker's act is not a negative judgement of the listener's self-image (Brown & Levinson, 1978, p. 70).

Negative politeness, on the other hand, is "essentially avoidance-based"; it is specifically toward satisfying the listener's negative face, who wants "to maintain claims of territory and self-determination" (Brown & Levinson, 1978, p. 70). In this respect, the negative politeness strategy involves an overlap between showing politeness and avoiding imposition. As an illustration, the speaker may use hedges to soften the threat of a request or command, e.g. I was wondering if you could lend me your car? This act is a softening mechanism that protects the listener's autonomy and allows him/her to refuse without embarrassment (giving the addressee an "out") (Brown & Levinson, 1978, p. 70).

2.3 Mitigating Strategies

Mitigation can be defined as a “reduction of certain unwelcome effects which a speech act has on the hearer” (Fraser, 1980, p. 341). For instance, the speaker uses mitigation to soften a command or ease the blow of bad news (Fraser, 1980, p. 342). According to Fraser (1980), there are two main mitigating strategies: namely hedging, mitigating and indirectness. Hedging was introduced by Lakoff’s (Fraser, 1980, p.344) as a form of mitigation that make “things fuzzier or less fuzzy” (Fraser, 1980, p. 344), softening the speaker’s assertiveness. Hedging words such as “sort of, maybe, I think” can create a mitigating effect and show a lack of full commitment (Fraser, 1980, p. 344). The second mitigating strategy is “indirectness”, which allows the speaker avoid saying things explicitly. For example, by saying “If the door could be closed, we could begin” (Fraser, 1980, p. 346). Through this indirect speech act, the speaker is performing a request indirectly giving space for the hearer’s interpretation.

2.4 Language functions in Moroccan EFL materials and textbooks

EFL stands for English as a Foreign Language. According to Rathert and Cabaroğlu (2022), an EFL textbook is a teaching and learning material that provides language input and practice of the English language as well as culture. Therefore, textbooks for foreign language learning are often part of a graded series covering multiple skills; listening, reading, writing, speaking, grammar. (Rathert & Cabaroğlu, 2022, p. 171).

The Ministry of Education has designed guidelines for all secondary school levels, that is, the common core and the first and second year baccalaureate. These guidelines are aligned with the principles set forth in the National Charter for Education and Training and subscribe to a standards-based approach to the teaching of English as a foreign language (Ministry of Education, 2007, p. 30). The standards-based approach aims to help learners use English in several contexts and for diverse purposes, emphasizing the five Cs: communication, cultures, connections, comparisons, and communities. In this respect, the teaching of language functions has received greater attention in EFL materials and textbooks. Such significant consideration can be justified by placing learners in “situations where they can use English as an instrument for social interaction while learning the communicative functions” (Ministry of Education, 2007, p. 30). Learners are therefore made able to “vary their speech to suit different social circumstances, and to use generally acceptable and non-offensive forms” (Ministry of Education, 2007, p. 30). Besides, language functions involve using language to interact with different interlocutors and for different purposes, emphasizing “interpersonal communication” as a prerequisite in the standards-based approach to EFL learning.

EFL textbooks designed for secondary education involve social and rhetorical functions. Social functions involve “expressing one’s thoughts or feelings, expressing agreement and disagreement, apologizing, complaining, asking for information, responding to good and bad news, making and responding to requests, expressing regret, asking for and giving advice, expressing certainty and uncertainty, so on and so forth. It is necessary to further focus on the learners developing the ability to use social/communicative functions accurately (correctly) and appropriately (in the right contexts)” (Ministry of Education, 2007, p.31). Social or communicative functions can be represented through either dialogues or exchanges that reflect authentic and realistic interactions between interactants. Along with indicating the setting and social relations between the interactants, the target function should naturally occur within a particular context or situation (Ministry of Education, 2007, p.31). While rhetorical functions refer to the

language functions that are often used in academic spoken or written texts, including defining, cause and effect, purpose, addition, and concession (Ministry of Education, 2007, p.32).

2.5 Communicative competence

The notion of communicative competence is one of the theories that underlies the communicative approach to foreign language teaching. Canale and Swain (1980) defined communicative competence in terms of three components: grammatical competence (words and rules), sociolinguistic competence (appropriateness), strategic competence (appropriate use of communication strategies), and discourse competence (coherence and cohesion) (p. 8). As far as language teaching in education is concerned, it has become widely accepted that communicative competence should be the goal of language education and central to classroom practices. The concept of communication competence emerged as a reaction to earlier approaches to language that focused exclusively on grammatical competence. Within the EFL Moroccan context, communicative competence is crucial in curriculum design, assuring that learners can use English effectively in real-life communication.

2.6 Pragmatic competence

Pragmatic competence can be defined as the ability of EFL learners to use language appropriately in different social and cross-cultural contexts (Chen & Rao, 2025, p.37). It is a subcomponent of communicative competence involving *pragmalinguistic knowledge* which refers to linguistic strategies for performing speech acts (such as requests, apologies, and refusals so on and so forth) and *sociopragmatic knowledge* that refers to awareness of social and cultural norms that influence social interaction (Chen & Rao, 2025, p.38). Therefore, “pragmatic competence has been quite an important issue in cross-cultural communication and has been one of the most significant objectives of EFL learning and teaching” (Chen & Rao, 2025, p.37). The significance of pragmatics in EFL textbooks is crucial since it directly affects learners’ ability to communicate effectively and appropriately in real-life contexts. For instance, pragmatics teaches learners how to make requests politely, to refuse or complain without offending. Within the EFL Moroccan context, developing pragmatic competence is mandatory for maintaining successful intercultural communication.

3. Methodology

3.1 Research Design

The current inquiry adopts a quantitative descriptive research design using content analysis to examine the representation of FTAs) and politeness strategies in Ticket to English 2.

3.2 Textbook Selection and Description

This study specifically focuses on the examination of Ticket to English 2 textbook designed for the instruction of English as a Second Language. It is officially adopted by the Moroccan Ministry of National Education for second-year Baccalaureate students in public high schools. It was authored by Mohamed Hammani et al. (2007). **More** importantly, it was selected because it is aligned with the standards-based approach and integrates communicative and functional language objectives. The textbook consists of ten

units, each of which is organized around specific themes integrating key components such as vocabulary, listening, speaking, reading, grammar, writing, study skills, and an “Explore Culture” section.

The entire textbook was analyzed using purposive sampling to focus on activities that require learners to engage in FTAs, such as making requests, refusals, apologies, complaints, and disagreements. This sampling method allowed to assess the extent to which the textbook supports learners’ pragmatic and sociolinguistic development.

3.3 Quantitative Content Analysis Procedures

The current study adopted a quantitative content analysis that went through four main systematic procedures: data source, units of analysis, coding scheme, quantification, and data interpretation.

- **Data Source:** The Ticket to English 2 textbook was selected, and all units of the textbook were included for analysis.
- **Units of Analysis:** Dialogues, role-plays, and functional expressions presented in the speaking section were considered for analysis.
- **Coding Scheme:** Categories were developed in alignment with Brown and Levinson’s (1987) Politeness Theory, and FTAs types such as requests, refusals, apologies, complaints, disagreements, and politeness strategies used to mitigate FTAs (e.g., hedging, indirectness, softening expressions).
- **Quantification and Data Interpretation:** Across all the units of the textbook, each identified FTA will be documented according to the unit name and page number, FTA type, politeness strategies, and mitigating strategies.

4. Analysis and Discussion

This section presents and discusses the main findings derived from the analysis of Face-Threatening Acts (FTAs) and politeness strategies identified in the Ticket to English 2 textbook. Ultimately, the discussion links the findings to previous studies and research questions.

4.1. Distribution of FTAs by percentage

Table 1: *FTAs Distribution*

FTA Type	Frequency	Percentage
Disagreement	3	10%
Request	1	3%
Accepting Request	1	3%
Declining Request	0	0%
Complaint	4	14%
Apology	3	10%
Request Advice	3	10%
Giving Advice	3	10%
Expressing certainty	4	14%
Expressing uncertainty	4	14%
Expressing regret	4	14%
Total	30	100%

Source; the analysis of The Ticket to English 2 textbook

The table 1 above presents the FTAs distribution in the selected textbook, revealing a total of 30 FTAs observed across eleven categories. The most frequent FTAs were *complaints*, *expressing certainty*, *expressing uncertainty*, and *expressing regret*. Each FTA represents 14% of the total. These results suggest that participants are likely to engage in communicative acts which reflect dissatisfaction. Moderately frequent categories include *disagreement* (10%), *apology* (10%), *requesting advice* (10%), and *giving advice* (10%), representing a balanced frequency of mitigating and assertive speech acts. While less frequent acts include *request* (3%) and *accepting requests* (3%), while *declining request* does not appear in the data (0%).

The findings reflect a low frequency of requests and refusals. This indicates that functional language in Ticket to English 2 textbook represent a limited focus on confrontational speech acts, emphasizing a pedagogical choice in maintaining harmonious interaction and avoiding complex sensitive speech acts. The textbook, therefore, is unlikely to expose learners to impolite or uncomfortable communicative situations. Additionally, there is a moderate use of disagreement and apology. This indicates that learners are introduced to face-saving acts in the textbook, possibly to maintain a positive and comfortable interaction. As shown in the figure, there is a high frequency of complaints that introduce learners to assertive language use. This demonstrates that learners need to learn how to express dissatisfaction as an important function in real-world communication. The higher frequency of complaints emphasizes a controlled exposure to negative politeness.

4.2. Distribution of Politeness Strategies

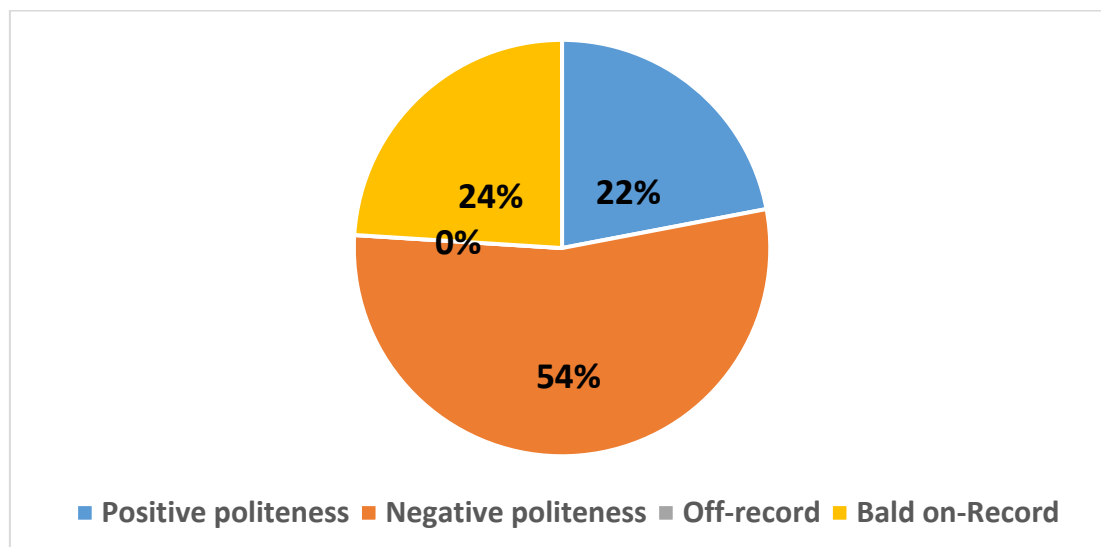


Figure 1: *Politeness Strategies*

Source: Source; the analysis of The Ticket to English 2 textbook

Figure 1 shows the distribution of politeness strategies, revealing that negative politeness is the most frequently used strategy, constituting 54% of all items. Off-record strategies come second, with 24%, reflecting a tendency to imply meaning rather than express it directly. Positive politeness strategies constitute 22%, revealing that speakers are likely to express friendliness and solidarity. No bald on-record strategies are recorded, showing that interactants generally avoid direct speech acts.

As shown in the findings, the dominance of politeness strategy (54%) in the functional language emphasizes showing indirectness and minimizing imposition (polite request, apology, complaint with hedges etc.). In light of these results, the Ticket to English 2 textbook is designed to teach students how to avoid confrontation and maintain social distance, particularly in formal meetings. As far as bald-on strategy (24%) that requires using direct and unmitigated expressions, (e.g. close the door!) The textbook emphasizes clarity and directness, especially in safe or familiar contexts (e.g., between peers, teachers, and students). While positive politeness (22%) is used to build solidarity and to emphasize friendliness. It is integrated to foster cooperation and community. Yet, off-record strategy (0%) is completely absent. The absence suggests that the textbook avoids ambiguity and prefers explicit or moderately indirect language, possibly to facilitate learners' comprehension and clarity in communication along with minimizing potential threats to the listener's face.

4.3. Distribution of Mitigating Strategies

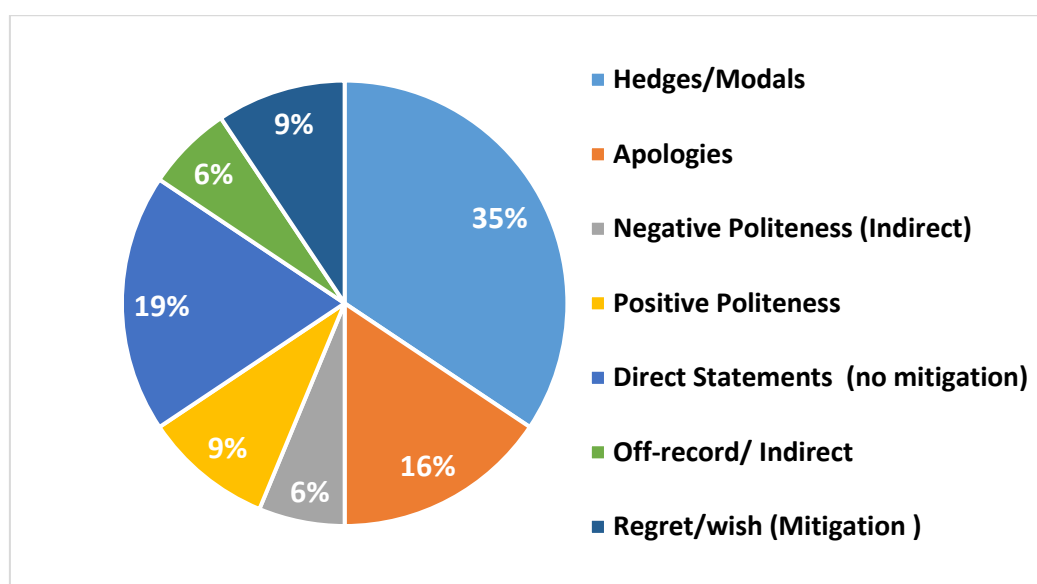


Figure 2: *Distribution of mitigating strategies*

Source: Source; the analysis of The Ticket to English 2 textbook

This chart presents the distribution of different types of mitigating strategies reflected in Ticket to English 2 textbook. The largest category is the use of *hedges/modal verbs* (35%) to soften language or statements. The second category, *direct statements*, constitute 19% reflecting unmitigated statements. Apologies are often used (16%) to demonstrate politeness. *Positive politeness* constitutes 9%, showing friendliness or solidarity. *Regret/wish* makes up 9% of mitigating strategies, reducing the impact of an FTA. *Negative politeness* constitutes 6% of indirect strategies to minimize imposition or show respect. Off-record/indirect makes up of 6% of indirect strategies reflecting ambiguous or indirect ways of communication.

The findings support the argument of promoting Brown and Levinson's theory through the high presence of mitigation strategies. Hedges and modals are used to soften suggestions, opinions, and criticism, encouraging indirectness and politeness. The frequency of apologies promotes politeness in sensitive interactions. The use of positive politeness builds rapport in dialogues. While negative politeness aims to reduce imposition (e.g. indirect requests) emphasizing formal and respectful language use. The limited use of off-record may indicate an emphasis on clarity rather than implication. The use of regret or wish expressions may express discontent in a mitigated way. While direct unmitigated acts may add realism to

social interactions. The findings do not support the hypothesis that the Ticket to English 2 textbook presents a balanced distribution of FTAs across communicative activities. Besides, the results contradict the suggested hypothesis, suggesting that the textbook represents sufficiently politeness strategies aligned with Brown and Levinson's Politeness Theory. While they confirm that the Ticket to English 2 Textbook emphasizes mitigated expressions over direct face-threatening acts.

5. Conclusion

Several studies (Choraih et al., 2016, Hmouri, 2022; Ed-deraouy & Sakale Sana, 2024; Bouknify & Anasse, 2024; Bouknify, 2025) examining the significance of EFL textbooks in enhancing communicative skills highlight a common limitation: the lack of how FTAs are presented and how politeness and mitigation strategies are taught. The current literature on pragmatics in EFL materials shed light on the deficiency concerning speech acts in terms of quantity and quality (Bouknify & Anasse, 2025). Therefore, this study aimed to investigate the role of Ticket to English 2 textbook utilized in Moroccan high schools (second year Baccalaureate) in promoting FTAs and politeness strategies. The study's findings revealed that the Ticket to English 2 textbook strongly fosters negative politeness strategies, reflecting a strong focus on respect, non-threatening interaction, and formality between interactants. The complete absence of off-record strategy suggests a deliberate avoidance of ambiguity supporting learners' clarity and comprehension. Such distribution of FTAs and politeness strategies demonstrates a balanced but cautious instructional design, focusing on social appropriateness and linguistic safety in teaching FTAs. This study significantly contributes to the understanding of English language learning in Morocco by demonstrating that despite the limitations in pragmatic input in EFL textbook, Moroccan EFL designers struggle in applying the pragmatic knowledge in real-life scenarios.

Although this study achieved its objectives, some limitations need to be revealed. The analysis focuses on one textbook, which restricts the generalizability of the findings to other EFL materials. They may present FTAs and politeness strategies differently. Besides, the study lacks an assessment of learners' use of functional language in the classroom as well as EFL teachers' perceptions about FTAs and politeness strategies.

The data analyzed in this inquiry were extracted exclusively from the Moroccan high school EFL textbook *Ticket To English 2*. In this respect, this research relies on textual and pragmatic discourse analysis without including data collection from human subjects (students or teachers). The textbook investigated is publicly available in both print and online formats.

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Appendix: Classification and Frequencies of FTAs and Politeness Strategies in Ticket to English 2

Unit	Page Number	Contextual Description	Utterance/Text Extract	FTA Type	Politeness Strategy	Mitigating Strategy
Unit 1	11	Students work in peer to find more expressions	I disagree with you	Disagreement	Bald On-Record	Direct, no mitigation
Unit 1	11	Students work in peer to find more expressions	I don't think so	Disagreement	Negative Politeness	Hedge (negation + hedge)
Unit 1	11	Students work in peer to find more expressions	Sorry to say it, but you're wrong	Disagreement	Negative Politeness	Apology + negative politeness
Unit 2	25	Students are asked to read the exchange and circle the correct option	Would you mind ...?	Making Request	Negative Politeness (Indirect request)	Negative politeness
Unit 2	25	Students are asked to read the exchange and circle the correct option	Yes, sure	Accepting request	Positive Politeness	Positive politeness
Unit 2	25	Students are asked to read the exchange and circle the correct option	Is not stated directly	Declining request	0	0
Unit 6	85	Students fill in the chart with given expressions	Sorry to say it, but you ..	Complaint	Negative Politeness	Apology+ negative politeness
Unit 6	85	Students fill in the chart with given expressions	Enough is enough!	Complaint	Bald On-Record	Direct, no mitigation
Unit 6	85	Students fill in the chart with given expressions	I've been patient long enough, but ..	Complaint	Negative Politeness	Indirectness
Unit 6	85	Students fill in the chart with given expressions	I'm not satisfied with the way you ..	Complaint	Negative Politeness	Direct criticism
Unit 6	85	Students fill in the chart with given expressions	I do apologize	Apology	Positive Politeness	Apology
Unit 6	85	Students fill in the chart with given expressions	Sorry about that	Apology	Positive Politeness	Apology

Unit 6	85	Students fill in the chart with given expressions	I'm very sorry	Apology	Positive Politeness	Apology
Unit 7	101	Students are required to underline expressions of asking for and giving advice in a conversation	What do you think I should do?	Request Advice	Positive Politeness	positive politeness
Unit 7	101	Students are required to underline expressions of asking for and giving advice in a conversation	what do you suggest?	Request Advice	Positive Politeness	positive politeness
Unit 7	101	Students are required to underline expressions of asking for and giving advice in a conversation	What would you do in this situation?	Request Advice	Positive Politeness	positive politeness
Unit 7	101	Students are required to underline expressions of asking for and giving advice in a conversation	I think you should	Giving Advice	Bald on-record with slight mitigation	Hedge
Unit 7	101	Students are required to underline expressions of asking for and giving advice in a conversation	Maybe you should	Giving Advice	Hedged/Indirect	Hedge
Unit 7	101	Students are required to underline expressions of asking for and giving advice in a conversation	If I were you, I would	Giving Advice	Indirect/Hypothetical	Hedge + indirect advice
Unit 9	131	Students are asked to fill in the chart with given expressions	It is crystal clear that ...	Expressing certainty	Bald on-record (Direct)	No mitigation

Unit 9	131	Students are asked to fill in the chart with given expressions	No one can deny	Expressing certainty	Bald on-record (Direct)	No mitigation
Unit 9	131	Students are asked to fill in the chart with given expressions	I'm sure that ...	Expressing certainty	Bald on-record (Direct)	No mitigation
Unit 9	131	Students are asked to fill in the chart with given expressions	Undoubtedly	Expressing certainty	Bald on-record (Direct)	No mitigation
Unit 9	131	Students are asked to fill in the chart with given expressions	I doubt	Expressing uncertainty	Hedging (Indirect)	Hedge
Unit 9	131	Students are asked to fill in the chart with given expressions	may	Expressing uncertainty	Hedging (Indirect)	Modal Hedge
Unit 9	131	Students are asked to fill in the chart with given expressions	probably	Expressing uncertainty	Hedging (Indirect)	Hedge
Unit 9	131	Students are asked to fill in the chart with given expressions	I think	Expressing uncertainty	Hedging (Indirect)	Hedge
Unit 10	145	Students are asked to underline expressions of regret in the paragraph	If only ..	Expressing regret	Negative Politeness (Self-blame)	soft regret
Unit 10	145	Students are asked to underline expressions of regret in the paragraph	I should have ..	Expressing regret	Negative Politeness (Admission)	Mitigated regret
Unit 10	145	Students are asked to underline expressions of regret in the paragraph	I regret it now	Expressing regret	Negative Politeness (Direct)	Directness
Unit 10	145	Students are asked to underline expressions of regret in the paragraph	I wish I were ...	Expressing regret	Negative Politeness (Hedging)	Mitigated by soft wish

The role of the Mosque in the Preservation of Culture and Identity: the Case of the Moroccan Immigrants Issued from the Oriental Region

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Abstract

There are always social, economic, and emotional ties between the immigrant and his country of origin. Social institutions, such as the mosque and the school (Islamic center), play a key role in preserving these links. Based on a methodology that combines the quantitative and the qualitative, this article seeks to study Moroccan identity and culture in a constantly expanding migratory territory. It also examines the role of mosques and schools abroad in preserving identity and culture of origin. At the same time, it presents some challenges these institutions may encounter in carrying out these tasks for new generations.

Keywords: Mosque, MRE, stranger, transmission, preservation, identity, culture.

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1. Introduction

The sedentary lifestyle of the Moroccan community and the succession of generations abroad have contributed to the development of social capital linked to migration. (Finlay, 2017, pp. 785-805) However, this capital is constructed differently from one country to another, as Moroccans residing abroad (MRA) settled early in the so-called traditional countries of international migration, such as France, Belgium, the Netherlands, and Germany, and more recently in Spain and Italy. (Moroccan migration dynamics, 2024)

Among the advantages of this Moroccan social capital abroad, we mention the construction of mosques and the establishment of schools, which have played and still play a very important role in maintaining the identity and cultural ties between MRA and their homeland. (Calpe et al., 2022) They offer the Moroccan immigrant community a place and an environment to practice their culture. They are also a place for personal and collective identity blossoming. (Receiving by Giving: Examining Cross-Border Diasporic and Bi-Cultural Philanthropy, 2021, pp. 97-113)

The Moroccan international migrant (man and woman) is very complex because two major poles of attraction influence it: the host country and the country of origin. This situation is more critical for new generations, whose identity is forged through divergent and incompatible cultural interactions between home/the roots and the host society. (Mahieu, 2019)

This article examines the role of the mosque and the school as social institutions in preserving cultural and identity ties and transmitting values and norms of origin to the children of the MRA in the Oriental Region, as well as the challenges these institutions may face abroad.

We, therefore, make two assumptions:

- The mosque and the school are social institutions that contribute to the preservation of the links of MRA with their original culture.
- These institutions face challenges in maintaining cultural and identity ties.

Two major questions dictate this problem:

- How do mosques and schools (Islamic centers) intervene to preserve the MRA's cultural and identity ties with their home country?
- What are the challenges the Moroccan mosques face in preserving the cultural and identity ties of MRA abroad?

To answer the problem, we will rely on the findings obtained during the preparation of a thesis on the challenges of Moroccan international migration, in which we have developed documentary research and questionnaires destined to MRA from the Oriental Region in Europe, in addition to interviews with the presidents of two mosque associations in Spain and France. In addition, we have developed a focus group in Spain.

1. The Mosque Preserves the Culture and Identity of MRE Children Outside the Family

The only way for children of Moroccans residing abroad (MRA) to stay in contact with their culture of origin is through the family, the mosque, television channels, or visits to Morocco. (Pels & Haan, 2007, pp. 69-94) In this respect, the MRA have created Islamic associations and centers to support this community's social and religious integration and preserve its Moroccan and Islamic identity. (Bruce, 2018, pp. 159-178) In addition, these associations and centers offer religious lessons and the Arabic language to the children of MRA.

Furthermore, MRA is aware of the challenges their children face, especially regarding their relationship with their cultural roots. Therefore, they enroll them in associations or centers to receive culture classes (Table 1). (Palma & Llorent-Vaquero, 2017)

Table 1: Types of cultural courses taken by the children from the MRA contacted

Type of course	Number	%
Arabic language courses	71	39%
Course on religion	25	13,7%
Amazigh course	2	1,1%
Without answer	84	46,2%
Observation total	182	100%

Source: Questionnaire for MRA, 2016-2017

We note that 53.8% of the contacted MRA children take courses related to their culture of origin: 39% take Arabic language courses, and 13.7% take courses on a religion, based on learning the Koran and some notions on prayer, Ramadan, and daily behavior.

For example, and not exclusively, we present two associations that offer this kind of service to MRA in two European cities: the first in Igualada City in Spain and the second in Château Thierry in France.

1.1. The Islamic Center of Igualada

Igualada is the capital of the ANOIA department, in the province of Barcelona, Spain. It is located 60 km west of Barcelona. It is built on the north bank of the ANOIA River at an altitude of 351.8 m . (Torras & Ribe, 1988, p. 33)

On January 1, 2015, the region of Catalonia was home to 1067,465 foreigners, which represents 14.1% of its population, of which Moroccans rank first with 217,955 immigrants, or 20.4% of the foreign population, followed by Romanians in second place with 99,892 immigrants, or 9.4% of the foreign population (Consell Comarcal de l'Anoia, 2015). The ANOIA department housed 9,684 immigrants on January 1, 2015, representing 8.2% of its population (Table 2). Moroccans remain in first place with 4,246 immigrants, or 43.8% of the foreign population, followed by Romanians with 1,152 immigrants, or 11.9% of the foreign population. (Consell Comarcal de l'Anoia, 2015)

Table 2: Number and percentage of Moroccans among foreigners in Catalonia, Anoia and the city of Igualada in 2015

	Total population	Foreigners	Moroccan	% of Moroccans in the mass of foreigners
Catalonia	7546 827	1067 465	217 955	20,4%
Anoia	117 809	9 684	4 246	43,8%
Igualada	38 940	4 319	1 863	43,1%

Source: Comarcal Council, informestadistic: les migracions a la comarca de Anoia 2015. Departamento de bienestar social y atención a la ciudadanía. Area of ciudadaniaiconvicencia.

According to Table 2, in 2015, Igualada hosted a very large foreign community. It reached 4,319 foreigners, which is 11.1% of its total population. Moroccans represented 1,863 immigrants, or 43.1% of the foreign population;; 992 were men, and 872 were women[4].

The Moroccans of Igualada have created an association to buy a place to transform it into a mosque. After long negotiations on the agreement and the location of the mosque, since the latter must be in a place that does not create any disagreement with the local population. Finally, the Association was able to obtain an agreement from the municipality in 2006 on the location of the purchase of the premises (Figure 1)

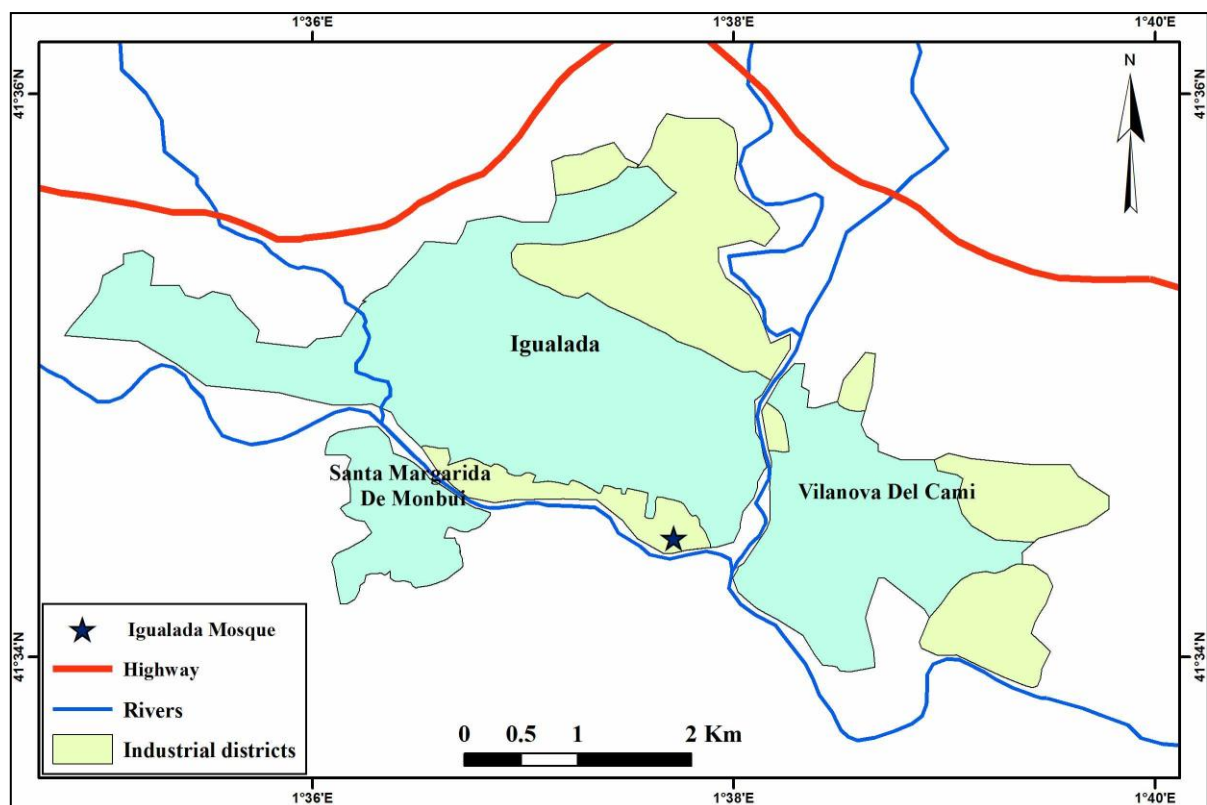


Figure 1: Layout of the mosque of Igualada

Source: Own work, (<https://www.google.com/maps/>)

The mosque is in an industrial district in the east of the city, in an unpopulated area. By November 12, 2016, the cost of the location and the restoration to make it suitable for prayer and other services reached €600,000. Believers' donations and monthly contributions from emigrants in the city funded the purchase and restoration.

Initially, the Association's objective was to establish a place for prayer. However, after buying the premises, it expanded its services, and the mosque became an Islamic center, which took the name of the Islamic Center of Igualada. The center offers several services, including preserving the culture of origin of the children of MRA and the Muslim population, especially by organizing Arabic language and religious courses.

In this article, we present the organizational aspects of this operation: the educational program, the timetable's levels and organization, the support and contributions, and some constraints the Association faces. These results come from the interview we conducted with the Association's executive office, which manages this Islamic center, on November 12, 2016, and from the results of the questionnaire with the MRA.

1.1.1. An educational offer that needs to be revised for migration.

The Association itself develops the program adopted in the teaching process. The President of the Association affirmed that they did not ask for pedagogical help. Instead, they have developed a program for each level. For Arabic, the program is based on textbooks used in Moroccan public schools; the same applies to Islamic education lessons (Photo 2).

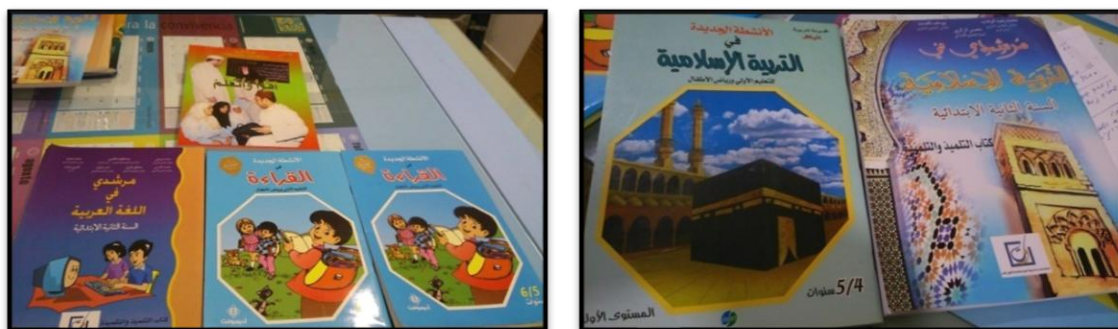


Photo 2: Textbooks of the Arabic language and Islamic education taught

Source: Personal snapshot, November 12, 2016, Igualada, Spain

Teaching methods and content delivery remain tied to teachers' efforts because the Moroccan government has not followed up on the established curriculum. Similarly, teachers still need to receive professional and pedagogical training.

Indeed, the President of the Association affirmed that "the teachers think that the program must be suitable to the environment in which the emigrant students have grown up. Therefore, the Association is currently trying to develop a program adapted to the migratory context in Spain." The desire to develop a program that suits the migratory context in Spain is an initiative that deserves the encouragement and support of those responsible for migration affairs in Morocco, since the Association is convinced that the Moroccan program is developed in another context. However, unfortunately, the students need to react appropriately to this program.

1.1.2. Schedule levels and organization

Enrollee students are divided into four levels. Each level is divided into groups, and each group is made up of 25 students:

- Level 1: has six groups
- Level 2: has three groups
- Level 3: has two groups
- Level 4: has two groups

Concerning the timetable, classes take place only on Saturdays and Sundays. Every two hours, four groups are in class. In general, there are 13 groups, meaning each student benefits from two weekly sessions.

Table 3: Students' Timetable in the Center School

10h	12h	12h	14h	14h	16h	16h	18h
Group 1		Group 5		Group 9		Group 13	
Group 2		Group 6		Group 10			
Group 3		Group 7		Group 11			
Group 4		Group 8		Group 12			

Source: Interview with the executive office of the Association, November 12, 2016, Igalada

The school also offers literacy classes for men and women. Thirty-three women receive two hours of training every Monday and Wednesday, and 10 receive two hours every Tuesday and Thursday.

Regarding the number of registered students at the different levels at the Islamic Center of Igalada, Figure 2 shows the evolution of the number of students between 2012 and 2016.

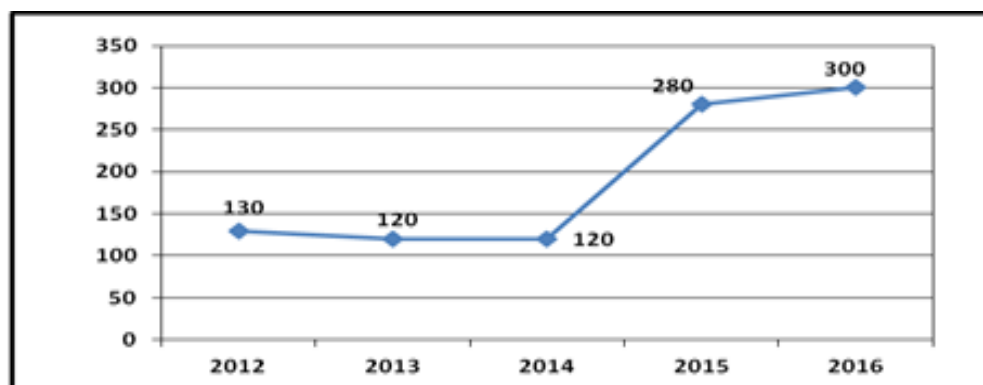


Figure 2: Evolution of the number of beneficiaries of language and religion courses offered by the Islamic Center of Igalada

Source: Interview with the executive office of the Association, November 12, 2016, Igalada

Figure 2 clearly shows that the number of pupils increased from 2012 to 2016, reaching 300 pupils. This suggests we are ahead of many students, given that the number of Moroccans in this city is 1863 emigrants. In addition, the President affirmed that there are registrants of other nationalities: 6 Algerians, 2 Tunisians, 22 sub-Saharanans, 2 Libyans, and a Spaniard.



Photo 3: Arabic language session at the Islamic Center in Igualada
Source: Personal snapshot, November 12, 2016, Igualada, Spain

Photo 3 shows one of the four classrooms in the center. The number of students is quite large, and the classroom walls are still being restored. The President of the Association confirmed that the number of students registered at the center school differs from the total number of children in Igualada. This is because some parents want their children to skip Arabic lessons. The Igualada area is made up of two other small towns (Figure 1, P: 4). These are the Vilanova Del Cami town which is located on the east side of Igualada city, and which has a small mosque, in addition to Santa Margarida de Monbuitown which is located in the south, and which has a prayer room. The distance between these three cities is a few hundred meters.

There are 65 Moroccan students at the Vilanova Del Cami mosque, they take Arabic language and religion classes, and at Santa Margarida de Monbui, there are 25 students. This means that the Igualada area offers classes to 390 students in two mosques and a prayer room.

The number seems important and requires immediate intervention from the Moroccan Government. The number is also alarming regarding the problems faced by the Moroccan and North African communities abroad, namely crime and terrorism. (Preventing religiously inspired violent radicalization among Moroccan youth, n.d.)

1.1.3. Material and educational needs

The interview with the Association's office, which manages the center, revealed that it faces several challenges, notably the urgent need for textbooks and equipment such as tables, as the number of beneficiaries has grown significantly. The Association meets only 45% of needs. A very urgent challenge is the need for more space; since the current space is insufficient, "we sometimes use the prayer room for teaching."

Another constraint is the low financial contribution from parents because they are not interested in the challenges the Association faces. The financial contribution of the parents of beneficiaries is limited to 60 euros per year for each child. However, only 50% of parents pay this amount. There is a lack of commitment and seriousness; the President of the Association had said that "we sent invitations to 300 parents of

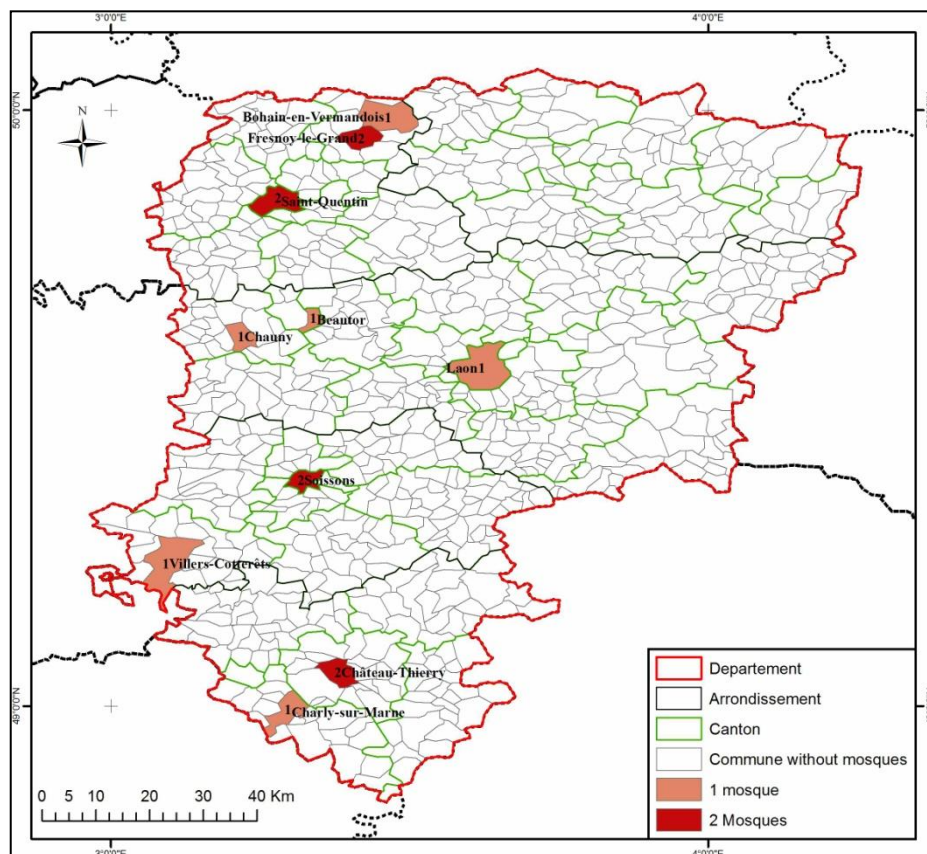
students, and only 30 attended. There is no helping hand from them", which poses a great financial challenge.

There are only four female teachers; they are volunteers who receive a 300 euros stipend per month in return for 12 hours of work each week on Saturday and Sunday. These volunteers have only the baccalaureate level and no pedagogical training. The Association cannot offer the necessary means to finance this entire operation due to a lack of financial resources.

1.2. The Association of Château Thierry

Château Thierry is a French city part of the Department of Aisne in Picardy. It is located 100 km northeast of Paris in the North of France. The Moroccan diaspora in Aisne dates back to Moroccan soldiers who fought alongside French troops during the First World War.

According to the 2015 census, Aisne had 538,659 inhabitants; of these, 11,021 were foreign, and 4,059 were Moroccan¹. We should necessarily mention that the Aisne has 14 mosques (map 2).



Map 2: Municipalities with mosques in the Department of Aisne

Source: <http://www.trouvetamosquee.fr/category/mosques-de-france/> (updated on 11-07-14)

The legal population of the Aisne department, which is part of the Picardy region, reached 536,136 inhabitants in 2016. As map 3 shows, 14 mosques are located on this territory in 8 municipalities. Some urban communes such as Saint Quentin, Soissons and Château Thierry own 2 mosques.

¹ General Census in France of 2015 (the number of foreigners consists of immigrants with documents of permanent residence).

In Château Thierry, an association was created in 1992 under "The Cultural Association of Moroccans" (L'association culturelle des marocains) to buy suitable land to build a mosque.

A meeting with the President of the Association revealed information on the Association's role in preserving Moroccan culture and identity. Indeed, the President confirmed that the number of students registered has evolved as follows:

Tableau 4 : Le nombre d'élèves marocains inscrits à « L'association culturelle des marocains » à Château Thierry

Year	2015	2016	2017
Number	54	42	32

Source: Interview with the President of the Association on August 21, 2017

The President said that because the number of registered members is small, the Association has set a simple schedule that gives the children more free time. In 2017, 32 Moroccan students registered, 11 from the Oriental Region and 12 from other Moroccan regions. The remaining registrants (09) have other immigrant nationalities.

In this sense, classes take place only on Sundays, and students are divided into two groups: beginners from 10 a.m. to 12 p.m., and intermediate students from 12 p.m. to 2 p.m. The curriculum includes Arabic and Islamic education. The Association has just one volunteer teacher.

The President mentioned certain constraints that hinder preserving the immigrant children's language and culture of origin. First, parents of beneficiaries show little commitment and involvement. Even the financial contribution for each pupil is at most 10 euros per month. There is also a need for more financial aid and a shortage of volunteer teachers. Students face constraints like attendance and difficulty putting in as much effort as in French schools.

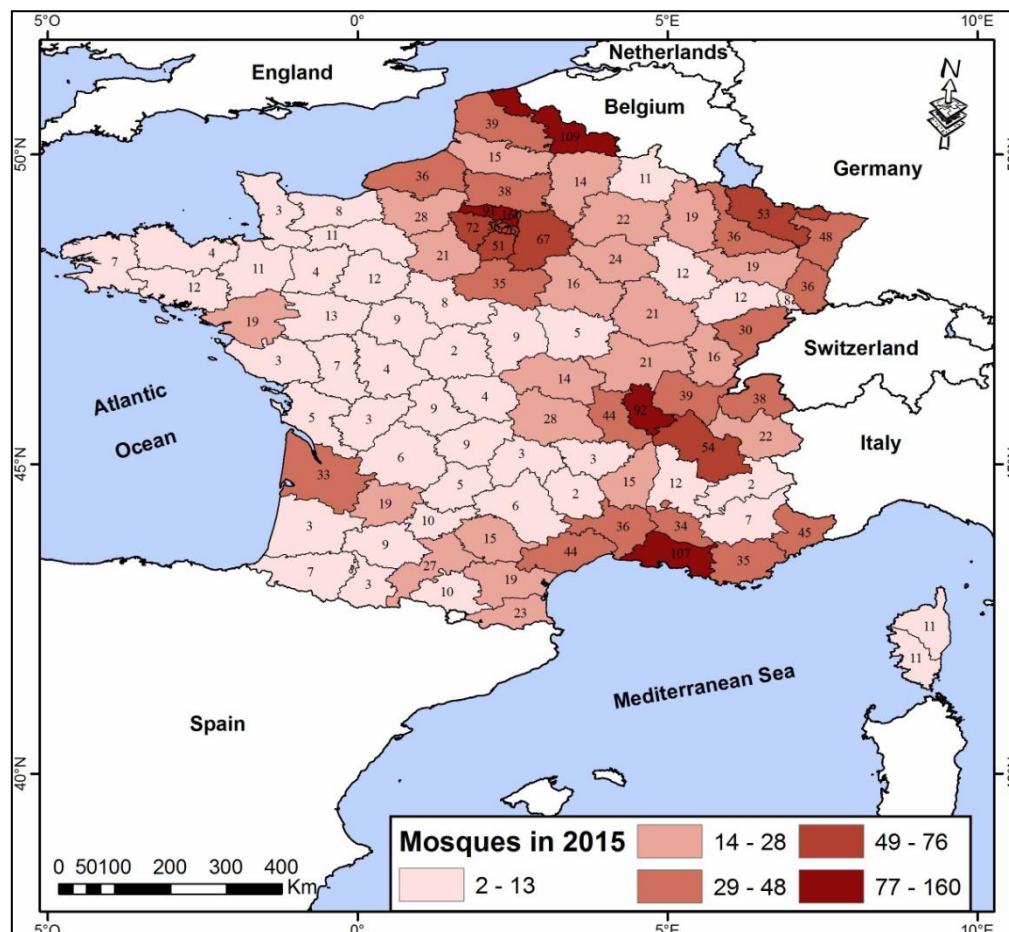
The President of the Association confirmed that Morocco's support is limited to sending an imam during Ramadan. However, aid is needed for language education and cultural preservation.

1.3. The mosque: a place of social construction and for the preservation of the collective identity

The mosque plays an important role in maintaining the relationship between the immigrant and his identity. Gathering for prayer preserves the community's collective characteristics. Even if the Muslim emigrants are not all practicing their religion, the mosque remains an institution of great spiritual and identity importance. (Pérez, 2023, pp. 78-103)

The exact number of mosques in the host countries of Moroccans is not identified. For example, neither the National Institute for Demographic Studies (INED) nor the French Council for Muslim Worship (CFCM) have exact figures in France.

Generally, French territory had only 100 mosques in 1970, most of which were in hostels for immigrant workers. However, a new census in March 2016 showed more than 2400 mosques and prayer rooms.



Map 3: Number of mosques and places of worship in France in 2015 by department

Source: <http://www.trouvetamosquee.fr/category/mosquees-de-france/> (updated on 11-07-14)

We can conclude from Map 3 that mosques are concentrated in the South-East, East, and North. Some departments host a fairly large number. In Seine-Saint-Denis (93 department) in the north of Paris, there are 160 mosques. In Marseilles, the number reaches 107 and 109 in the North department. In 2016, France housed almost 2,437 mosques.

The socialization of the new generations is one of the social roles of the mosque, among other roles; it generally happens unofficially, which sometimes poses problems in controlling this kind of learning, especially the messages transmitted to young children. (Calpe et al., 2022)

2. School: a social institution that preserves the culture and identity of the children of MRAs.

2.1. The intervention of the Moroccan state

Teaching the Arabic Language and Moroccan Culture (ELACM) is an action carried out by the Moroccan State that aims to preserve the links of the Moroccan community residing abroad with the language and culture of their home country.

To consolidate the attachment of the children of MRAs to their culture of origin, Morocco has adopted a program that consists of teaching them the Arabic language and Moroccan culture in several host

countries, including three intergovernmental agreements that have been signed related to teaching the Arabic language in public schools in each of the host countries, especially France, Spain, and Belgium¹.

According to the Hassan II Foundation for Moroccans residing abroad, "FH2MRA" took charge of education for the children of MRAs during the 1990-1991 school year. The geographical distribution of Moroccan language and culture teachers spans several countries, namely France, Belgium, Germany, Spain, Italy, the Netherlands, Portugal, Switzerland, Austria, Canada, Great Britain, and the United States of America. However, 78% of teachers are concentrated in France and Belgium.

Table 5: Number of Moroccan teachers and beneficiaries abroad

Years	Teachers	Beneficiaries	Years	Teachers	Beneficiaries
1990-1991	411	34 482	2001-2002	453	59 975
1991-1992	464	36 557	2002-2003	456	58949
1992-1993	466	39 127	2003-2004	452	54 283
1993-1994	484	42 394	2004-2005	515	56 623
1994-1995	482	41 471	2005-2006	541	56 748
1995-1996	464	40 649	2006-2007	541	60 064
1996-1997	453	40 572	2007-2008	516	63 105
1997-1998	453	39 435	2008-2009	499	63 000
1998-1999	432	53 686	2009-2010	525	60 000
1999-2000	434	53 416	2010-2011	518	62 000
2000-2001	420	53 196	2011-2012	576	75 387

Source: Teaching of the Arabic Language and Moroccan Culture in Figures.<http://www.fh2mre.ma>.

Regarding the geographical distribution of Moroccan teachers abroad, most are concentrated in France (Table 6).

Table 6: Geographical distribution of teachers abroad between 1990/1991 and 2012/2013

Countries	%
France	60,1
Belgium	17,43
Spain	10,22
Italy	4,22
Germany	3,8
Holland	1,4
Britain	1,2
Other countries	0,81

Source: Teaching of the Arabic Language and Moroccan Culture in Figures.<http://www.fh2mre.ma>

We note that 60.1% of Moroccan language and culture teachers abroad are concentrated in France, followed by Belgium, with 17.43%. In 2018, 188 teachers passed an exam to join the body of Moroccan language and culture teachers abroad. These teachers were distributed across the host countries as follows: 146 in France, 26 in Spain, and 16 in Belgium².

¹ Institutional education.<http://www.marocainsdumonde.gov.ma>

² "انتقاء 188 أستاذًا لتدريس اللغة العربية والثقافة المغربية لأبناء الجالية المغربية المقيمة بأوروبا" <https://www.ccme.org.ma/ar/revue-de-> presse-ar/53947, الاثنين، 14 مايو 2018

2.2. The school, a gateway to the collective identity in the host countries

The school is a space where collective national identity is forged. It is an official tool for transmitting the values and principles of citizenship. It is one of the main institutions of construction and social integration. (Wolhuter et al., 2020)

We know that more than 20% of MRAs were born on the territory of a host country, and it is also well known that the Moroccan migratory field is very wide: it concerns more than 100 hosting countries. (Talent Abroad: A Review of Moroccan Emigrants, n.d.) Indeed, the children of Moroccan international emigrants will learn different values in their host countries' schools, subsequently producing different Moroccan immigrant identities. (The politics of Arabic language education: Moroccan immigrant children's language socialization into ethnic and religious identities, 2010, pp. 171-196) We often hear notions such as Moroccans from Spain, France, Canada, and other parts of the world. These designations have a primarily geographical connotation. In addition, identity identification is divided between the country of origin and the host country.

The child's social construction in French schools is based on the values and principles of the Republic, e.g., secularism and gender equality. However, these values sometimes contradict the principles and values transmitted by the family. This contradiction between school and family creates a cultural imbalance in the child. Incompatibility here forges a so-called hybrid identity. (Lizotte, 2020, p. 102121)

2.3. Culture and identity of MRAs in a multicultural society

Daily life in the host countries requires migrants to come into contact with several cultures. This includes not only host-society cultures but also other immigrants' cultures. These cultures interact in the street, at school, at work, in administration, etc. Each immigrant community exercises and preserves as much of its originality as possible. This means that the host society is a mixture of cultures. (Finlay, 2017, pp. 785-805) Indeed, "a multicultural society is one in which each cultural group retains and affirms its identity and traditions while sharing and respecting the common values of the country." (Van Eeckhout, 2007, pp. 27, 24).

For example, in 2015, France had 6,106,695 immigrants and 49 different nationalities, meaning many immigrant nationalities are part of French society. MRAs are obliged, like all other immigrants in France, to familiarize themselves with and be part of this multicultural and melting pot society. Multiculturalism becomes more visible in the suburbs and neighborhoods where HLMs live.

The Moroccan community residing abroad still preserves its culture and identity, especially during certain events. We can see this preservation in dress, customs, and habits: the feast of sacrifice, Ramadan, weddings, baptisms, and circumcision. These are occasions when Moroccan and Muslim customs emerge, even though the practices and celebrations often take place in private¹. (Ready, 2024)

Beyond the private ceremonies linked to their culture of origin, migrants in host countries are part of society. They normally benefit from the same holidays as national holidays. Over time, migrants become familiar with the host society's culture, and it becomes part of their lives, especially for new generations. (Kalmijn & Kraaykamp, 2017, pp. 697-717)

¹ Focus group 2016

2.4. Cultural ghettos: a complex challenge to overcome.

A participant in a focus group carried out in Spain used the concept of "cultural ghettos", which in our opinion, reflects well the major challenge of preserving the culture of origin in the host countries, which has produced notions such as the generation known as "Beur children" or hybrid identity, because "this situation will create children with a hybrid culture, it is not that of the country of origin nor the host society (Berkouchi, 2003, p. 16). In this sense, M.H BERKOUCHI mentioned, "As for the younger generations, they find themselves in many cases embedded in culturally troubled areas."¹

The participant also affirmed that "Moroccans live in cultural ghettos. We live among the Spaniards, but we know their festivals at all, neither national nor religious. The situation is very complicated for our children because they live in absolute conflict. For example, children learn sex education at school, which is unacceptable in the family. Some words appear normal at school, but at home, they are unacceptable, which creates a cultural division in the child"². Another participant affirmed, "At school, children learn to respect differences – the relationship between man and woman, homosexuals... – on the other hand, this kind of discourse is unacceptable in the family."³

All the participants agreed that "the most difficult integration is the cultural integration, because as Muslims and Arabs, it is difficult for us to appropriate Spanish culture, and vice versa, they also cannot appropriate ours. Therefore, integration throughout Europe must be based on multiculturalism". This reflects that the emigrants, especially North Africans and Muslims with their culture, live in isolation, even if they are visible in the host society.

3. Conclusion

The mosque and school are two institutions that seek to facilitate the integration of MRAs and their children into the host society and the Moroccan immigrant community. (Eguren, 2018, pp. 514-531) To accomplish this societal mission, some mosques have become Islamic centers that combine prayer with other tasks such as education and the celebration of ceremonies. (Islamic Centers | Dawat-e-Islami Europe, n.d.) The educational operation achieves two objectives: the first is learning the language and culture of origin, and the second is creating an endogenous place for sharing, contact, and practice of the culture of origin. (Finlay, 2017, pp. 785-805)

However, we have seen that different cultures live side by side in host societies, such as French society. The children of Moroccan international emigrants learn different values in schools in their host countries, which can shape their culture of origin and produce different Moroccan immigrant identities.

Finally, we can say that the preservation of Moroccan culture and identity abroad is a rather delicate and very complex affair, which requires the intervention of different parts: the migrant, the family, the mosque, the school, and the country of origin on one hand, and the host country and its people on the other hand. (Mahieu, 2019)

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¹ Focus group 2016

² Focus group 2016

³ Focus group 2016

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Guardians of Truth in Algerian Academia: Developing Ethical AI Frameworks for Multilingual Hypothesis-Driven Research

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Abstract

The proliferation of artificial intelligence (AI) technologies has transformed academic research practices across higher education institutions around the world. While AI-powered tools such as large language models, neural machine translation systems, and automated writing assistants offer significant opportunities for enhanced research productivity, they also pose complex ethical and linguistic challenges. These issues are particularly acute in multilingual and postcolonial academic contexts, where researchers are often required to navigate between multiple languages, traditions, and knowledge systems. This study explores the ethical implications of AI-assisted research in Algerian higher education and presents a context-sensitive framework for responsible AI use in multilingual hypothesis-based research. Using a convergent mixed-methods approach, this study examines the experience of 45 master students at the English department of Batna 2 University enrolled in a research methodology course. The results indicate that structured AI ethics education significantly improves students' ethical decision-making skills, awareness of algorithmic bias, and their ability to engage critically with AI generated outputs. The study also demonstrates that mainstream AI systems tend to favor Anglophone linguistic norms, which could marginalize local epistemologies and multilingual scholarly practices. In response, this article proposes the Algerian AI Ethics Triade: a framework based on the principles of Transparency, Cultural Relevance, and Human Primacy. The framework offers practical recommendations for researchers, educators, and policymakers who want to incorporate AI into academic research without compromising integrity, linguistic diversity, and intellectual autonomy. The findings contribute to emerging discussions on responsible AI governance and offer implications for multilingual higher education systems across the Middle East and North Africa (MENA) region.

Keywords: artificial intelligence ethics, multilingual research, academic integrity, EFL research, higher education. .

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1. Introduction

Artificial intelligence is evolving rapidly and has become an important component of academic life. AI-powered applications are now used in universities around the world for activities such as literature review, data analysis, proofreading, translation, and even writing papers. The emergence of advanced large language models (LLMs) has accelerated this transformation by giving students and researchers the opportunity to generate sophisticated language and process texts. Consequently, AI technologies increasingly influence how people learn and share information, as well as how knowledge is produced, communicated, and evaluated within academic communities.

Although these new developments offer considerable benefits, they also raise ethical issues related to authorship, intellectual autonomy, and scientific integrity. Academic institutions have traditionally thought that people are responsible for their work and ideas. Now that AI can generate text, synthesize information, and influence the decision-making process, these assumptions are greatly challenged. This is why it has become crucial for educators, researchers, and policymakers to determine how to integrate AI responsibly without compromising fundamental academic values.

These concerns are especially important in multilingual and postcolonial settings. Most of the existing discourse on AI ethics has emerged from North America and Europe, where English dominates academic communication and technology is well established. However, these discussions often overlook the reality of researchers working in linguistically diverse environments where access to resources is unequal and contribution to global knowledge production can be limited. Therefore, new approaches are needed to address the potential benefits and risks of AI-powered technologies in these specific settings.

Algeria provides a very interesting context for investigating these issues. The country's linguistic landscape reflects a complex interaction among Modern Standard Arabic, Algerian Arabic (Darija), Tamazight, French, and increasingly English. Researchers often use many of these languages in their professional or academic routines. English is becoming the preferred language of international publication, forcing scholars to conduct, write, and share their research in a language that is neither their mother tongue nor the primary language they use in the academic environment.

In this situation, AI-powered tools offer practical solutions to linguistic barriers. Neural translation systems can facilitate access to international data, automated writing assistants can improve language accuracy, and generative AI platforms can support brainstorming and information synthesis. However, these technologies may also reproduce linguistic hierarchies mainly because they were developed using English-language corpora. They often privilege Anglophone rhetorical conventions and communicative norms. This can be problematic for multilingual researchers who have to conform to dominant academic paradigms at the expense of their local knowledge traditions, cultures, and modes of expression.

The implications of these new developments and the way they are changing research are not just about language. AI systems can shape the formulation of research questions, influence theoretical framing, and affect the interpretation of findings. Researchers who rely excessively on AI-generated outputs may weaken their critical engagement with knowledge, hinder their intellectual autonomy, and eventually undermine their scholarly originality. Furthermore, AI systems are difficult to understand, which complicates the efforts to evaluate the reliability, validity, and bias of generated content. These concerns are particularly relevant for graduate students who are still developing their research identities and methodological competencies.

This study addresses these challenges by examining how AI ethics education can support the responsible integration of AI in multilingual academic research. This study investigates the experiences of Master 02 EFL students at Batna 2 University, Algeria, and evaluates the impact of a structured educational intervention designed to promote ethical awareness, critical AI literacy, and autonomous decision-making.

This paper is guided by three research questions:

- How does structured AI ethics education influence multilingual EFL students' ethical awareness of AI-assisted research?
- To what extent do students recognize and evaluate the algorithmic biases affecting multilingual academic practices?
- What principles should guide the development of contextually relevant ethical frameworks for AI-assisted research in higher education in Algeria?

By addressing these questions, the article informs an emerging body of literature on AI ethics in higher education and responds to increasingly urgent calls for culturally responsive approaches to AI governance. The study, while acknowledging that AI systems can be both threats and solutions, interacts with alternative manifestations of a more systemic approach to responsible human-AI collaboration from the perspective of transparency, critical reflection, and respect for linguistic diversity. Ultimately, this article asserts that multilingual researchers must be positioned as **guardians of truth**: not only scholars who can leverage technological innovation, but also protectors of epistemological veracity, authenticity, and cultural richness in academic knowledge production.

2. Theoretical Framework

2.1. Artificial Intelligence and the Transformation of Academic Research

The use of AI in research represents one of the most significant transformations in higher education. Recent advances in AI-powered technologies have expanded the range of work that can be partially automated within scholarly tasks. Researchers are now using AI tools to find relevant literature, summarize academic texts, assist with the organization of qualitative data, generate statistical outputs, and even write different versions of their research papers, which changes completely the way researchers work. Surveys conducted across multiple higher education systems indicate that the majority of graduate students now regularly use AI tools in some phase of the research process—from literature review and data analysis to writing and translation (Foltynek et al., 2023; Lund et al., 2023).

Proponents of AI-assisted research emphasize its ability to make research more efficient and accessible. For multilingual scholars, AI technologies can reduce linguistic barriers that have limited participation in international academic communities in the past. Automated translation systems help them read papers in different languages, while writing assistants help researchers produce high-quality research papers that fit international publishing standards. Such capabilities have the potential to make knowledge production fairer by enabling broader participation in global scholarly discussions.

Nevertheless, the growing integration of AI raises concerns about academic expertise and intellectual work. Several scholars have argued that generative AI changes conventional understandings of authorship and originality because AI-generated content often comes from interactions that mix human and machine contributions. Hosseini et al. (2023) argue that the use of LLMs, such as ChatGPT, in academic writing raises fundamental questions about intellectual contribution, originality, and accountability. The question

now is how researchers should ethically use these technologies in a way that ensures their responsibility for the work they produce (Stokel-Walker & Van Noorden, 2023).

A central concern involves the reliability of AI-generated information. Unlike traditional search engines, generative AI systems produce sentences based on what they think is right instead of providing direct verified knowledge. Consequently, they may generate plausible but inaccurate statements, fabricate references, or misrepresent complex theoretical arguments. Bender et al. (2021), in their influential analysis of large language models, identified the phenomenon of stochastic parroting: LLMs generate fluent, plausible-sounding text by statistically modeling the distribution of language in their training data without any mechanism for grounding this text in real-world knowledge or logical reasoning.

Foltynek et al. (2023) note that the detection of AI-generated academic text remains technically unreliable, creating enforcement challenges that have led some institutions to adopt blanket prohibitions on AI use, while others have moved toward disclosure-based governance models. Neither approach adequately addresses the specific needs of multilingual researchers for whom AI tools may be genuinely necessary as accessibility accommodations. Therefore, it is important to verify every AI-generated output throughout the research process.

2.2. Algorithmic Bias and Epistemic inequality

One of the most frequently discussed AI system issues is algorithmic bias, which occurs when technological systems systematically favor certain groups, perspectives, or forms of knowledge over others. In language technologies, such biases often reflect inequalities present within training datasets, which affect how AI systems work and the results they produce. The goal is to design AI technologies that promote equality and fairness.

The use of English-language content within AI training data significantly affects multilingual researchers (Bender et al., 2021; Hovy & Spruit, 2016). Because many AI systems are optimized using data derived from English-speaking cultural settings, they often reproduce assumptions embedded within those contexts. As a result, language structure, rhetorical conventions, and knowledge associated with minority languages may not be well represented or understood. Canagarajah (2013) has documented this phenomenon and calls it the Anglophone research monoculture: the tendency of mainstream academic publishing and its associated gatekeeping mechanisms to treat Anglophone conventions as universal scholarly standards rather than as one culturally specific tradition among many.

These considerations can lead to what scholars call epistemic injustice in the sense developed by Fricker (2007): harm done to researchers as knowers, in their capacity to produce and have recognized legitimate scholarly knowledge. Epistemic injustice occurs when individuals or communities are disadvantaged because their knowledge is not valued or because institutional structures impede recognition of their intellectual contributions. Within multilingual academic environments, AI systems may accidentally reinforce epistemic inequalities by favoring dominant forms of knowledge production while marginalizing alternative perspectives (Lillis & Curry, 2010).

For Algerian researchers, these concerns are particularly important. Academic communication often involves switching between Arabic, French, and Tamazight, which systematically differ from Anglophone norms. Each of these languages carries specific historical, cultural, and epistemological significance. Tamazight, for instance, carries ideological implications that intersect with post-independence language politics (Benrabah, 2007). When AI tools systematically encourage conformity to Anglophone norms, they may diminish the visibility of locally grounded ways of knowing and communicating. Hovy and Spruit

(2016) introduce the concept of social bias in NLP, identifying ways in which natural language processing systems systematically disadvantage speakers of minority languages, non-standard dialects, and non-Anglophone varieties. Consequently, talking about AI ethics in multilingual settings should not be limited to technical considerations but should also address broader questions of linguistic justice and cultural representation.

2.3. Research Ethics in Multilingual Academic Context

Research ethics has traditionally focused on principles such as informed consent, confidentiality, and integrity. However, the rise of AI-assisted research necessitates an expansion of these frameworks to encompass new ethical challenges associated with cultural considerations. This means that research ethics frameworks that govern academic inquiry in Algerian and MENA university contexts cannot be read simply as local instantiations of universal principles (Macfarlane, 2009). The main rules for research ethics in English-speaking universities are rooted in post-World War II biomedical ethics, with their emphasis on individual autonomy, informed consent, and risk minimization. These ethics reflect specific philosophical traditions and institutional arrangements that do not map straightforwardly onto the collectivist social orientations, relational epistemologies, and differently structured institutional environments characteristic of many MENA research contexts (Hamdan, 2012).

In multilingual academic environments, these issues intersect with longstanding concerns regarding linguistic inequality. Scholars working outside Anglophone contexts frequently encounter structural barriers within international publishing systems (Curry & Lillis, 2004). The requirement to publish in English often creates additional cognitive, financial, and professional burdens. AI tools may alleviate some of these challenges; however, they can also deepen dependencies on technologies developed according to external norms and priorities.

Lillis and Curry (2010) document the practices of what they call academic literacy brokers—colleagues, editors, and commercial services who assist non-Anglophone scholars in producing internationally publishable texts. The ethical evaluation of AI use therefore requires sensitivity to contextual realities. What constitutes responsible AI use in a monolingual English-speaking institution may differ substantially from what is appropriate in multilingual postcolonial contexts. Ethical frameworks must acknowledge the complexities of language politics, cultural identity, and unequal participation in global knowledge economies.

Moreover, graduate students represent a particularly important population for AI ethics education. As emerging researchers, they simultaneously develop methodological competence, disciplinary expertise, and professional identities. Their experiences with AI technologies are likely to shape future research practices across academic fields. Flowerdew (2019) argues that non-Anglophone researchers face what he calls an asymmetric world of academic publishing—one in which native English speakers enjoy systematic advantages in peer review, editorial gatekeeping, and citation practices. Consequently, educational interventions that promote critical AI literacy may have long-term implications for the integrity of scholarly communities. An ethical framework for AI use in multilingual research must therefore simultaneously be a pedagogical tool for developing individual researchers' ethical capacities and a critical lens for interrogating the structural inequities that make AI tools both necessary and dangerous.

2.4. Emerging Approaches to AI Ethics Education

The field of AI ethics education is young and rapidly evolving. Formative contributions by Jobin et al. (2019), who conducted a systematic review of global AI ethics guidelines and identified convergent principles, including transparency, justice, non-maleficence, responsibility, and privacy, provide a useful starting point. AI literacy extends beyond technical understanding to include critical awareness of how AI systems function, how they influence social practices, and how ethical considerations should inform their deployment. However, as Hagendorff (2020) argues in a critical analysis of AI ethics guidelines, there is a significant gap between the principles articulated in ethics frameworks and the actual behavior of AI developers and users—what he calls the ethics washing problem: the production of ethical guidelines that signal virtue without generating substantive accountability.

Educational approaches increasingly encourage students to evaluate AI outputs critically rather than accepting them unreflectively. Long and Magerko (2020) proposed a competency-based model of AI literacy that includes understanding what AI is and how it works, critically evaluating AI outputs, and reflecting on the social and ethical implications of AI deployment. Selwyn (2022) extends this toward a more explicitly critical and political orientation, arguing that AI education must address the power relations and structural inequities that shape AI development and deployment, not merely the technical features of AI systems.

However, much of the existing literature focuses on general educational settings and remains grounded in Western institutional contexts. Research examining AI ethics education in multilingual and postcolonial environments remains relatively limited. The present study responds to this gap by investigating AI ethics education within the Algerian higher education context and proposing a framework that integrates the principles of transparency, cultural relevance, and human-centered scholarly agency. This study seeks to contribute to the development of ethical AI practices that support both technological innovation and epistemic diversity.

3. Methodology

3.1 Research Design

This study employed a convergent parallel mixed-methods approach (Creswell & Plano Clark, 2018) to investigate the effectiveness of a contextually adapted AI ethics intervention for multilingual EFL researchers. This design was chosen because the study aimed to provide a comprehensive understanding of how students negotiated the opportunities and challenges associated with AI-assisted research.

A pragmatist epistemological framework guided the study, prioritizing methodological choices suited to the research questions rather than adherence to a single paradigmatic tradition. Quantitative data were collected through pre- and post-intervention surveys designed to assess changes in ethical awareness and decision making. Qualitative data were obtained through semi-structured interviews and classroom observations to explore the participants' perceptions, experiences, and evolving attitudes toward AI use in research.

The intervention extended over a period of twelve weeks and was embedded within a Master's Research Methodology course. Quantitative and qualitative datasets were analyzed independently before being integrated during interpretation to identify areas of convergence, complementarity, and divergence.

3.2 Participants and Setting

The participants were 45 Master 2 EFL students enrolled in the Research Methodology course at Batna 2 University, Algeria. The institution represents a suitable site for investigating AI ethics in multilingual research because students routinely navigate Arabic, French, and English throughout their academic activities.

The ages ranged from 22 to 27 years, and 64% of the participants were female. All participants had completed at least three years of university-level English instruction and had prior experience with AI tools for academic purposes, primarily translation and writing assistance.

Purposive sampling was employed because the selected cohort represented a population actively engaged in academic research while simultaneously relying on AI technology to support English-language scholarly writing. Participation was voluntary, and informed consent was obtained from all students before data collection began.

3.3. Educational Intervention

The 12-week intervention replaced the standard research methodology course for the participants. The program was designed around three foundational principles that later informed the development of the Algerian AI Ethics Triad (see Section 5):

- **Transparency** in AI use
- **Cultural Relevance** of research tools and knowledge frameworks
- **Human Primacy** in research decision-making

These principles were operationalized through four main, interconnected pedagogical components:

Phase 01: Ethical Foundations (Week 1-3)

Ethical Awareness Workshops introduced students to fundamental concepts in AI ethics, including algorithmic bias, epistemic autonomy, and authorship in AI-augmented research. These workshops drew on Jobin et al.'s (2019) global principles review and Bender et al.'s (2021) limitation analysis adapted for the Algerian EFL research context. Classroom discussions examined real-world examples of AI misuse in academic contexts and encouraged critical reflection on responsible research practice.

Phase 2: Comparative Human–AI Inquiry (Weeks 4–6)

Comparative human–machine hypothesis testing required students to formulate research hypotheses independently, then use AI tools to generate alternative or refined versions, followed by systematic comparison and critical evaluation of the two. This component aimed to develop students' capacity to use AI as a dialogic interlocutor rather than an authority. Through structured analysis, students evaluated the strengths, limitations, and underlying assumptions embedded in both human-produced and AI-generated outputs.

Phase 3: Bias Detection Workshops (Weeks 7–9)

During these workshops, students were engaged in structured exercises using local corpora designed to identify instances of algorithmic bias. The students investigated how AI tools processed multilingual academic texts. Particular attention was paid to identifying linguistic standardization practices and the potential forms of cultural or epistemic bias.

Phase 4: Ethical Policy Development (Weeks 10–12)

Participants collaborated in groups to design institutional guidelines for the ethical use of AI in higher education. This activity encouraged students to translate their theoretical knowledge into practical policy recommendations.

3.4. Data Collection Instruments

Three instruments were employed:

The Ethical Decision-Making in AI Research Survey (EDAIRS) consisted of 28 Likert-scale items measuring four dimensions: AI literacy (understanding how AI tools work), ethical reasoning (applying ethical principles to AI use scenarios), bias awareness (recognizing algorithmic bias in AI outputs), and autonomy orientation (preference for human versus AI agency in research decisions). Items were rated on a five-point Likert scale and validated through expert review (three specialists in AI ethics and two EFL research methodology instructors) and pilot testing with a comparable student group. Internal consistency was strong (Cronbach's $\alpha = .87$ pre-intervention, $\alpha = .89$ post-intervention).

Semi-structured interviews were conducted with 18 participants who were purposively selected following the intervention. The interviews lasted between 40 and 60 minutes and were conducted in the participants' preferred language(s). Questions explored participants' experiences of the intervention, their evolving understanding of AI ethics, their perceptions of algorithmic bias, and their intentions regarding AI use in their own research. Interviews were audio-recorded, transcribed, and translated into English.

Classroom observations were collected across ten structured sessions that were distributed throughout the intervention. Observations were conducted using an adapted version of the AI Ethics Education Observation Protocol (AEEOP), documenting ethical reasoning episodes, critical engagement with AI outputs, collaborative discussions, and students' responses to the bias-detection activities.

3.5. Data Analysis

Quantitative data were analyzed using paired-samples *t*-tests to determine statistically significant differences between pre- and post-intervention scores. Effect sizes were calculated using Cohen's *d* (Cohen, 1988). Qualitative data were analyzed using reflexive thematic analysis (Braun & Clarke, 2022), with NVivo 14 software supporting the coding and theme development process. Integration of quantitative and qualitative findings was achieved through joint-display analysis, allowing statistical findings and qualitative themes to inform one another.

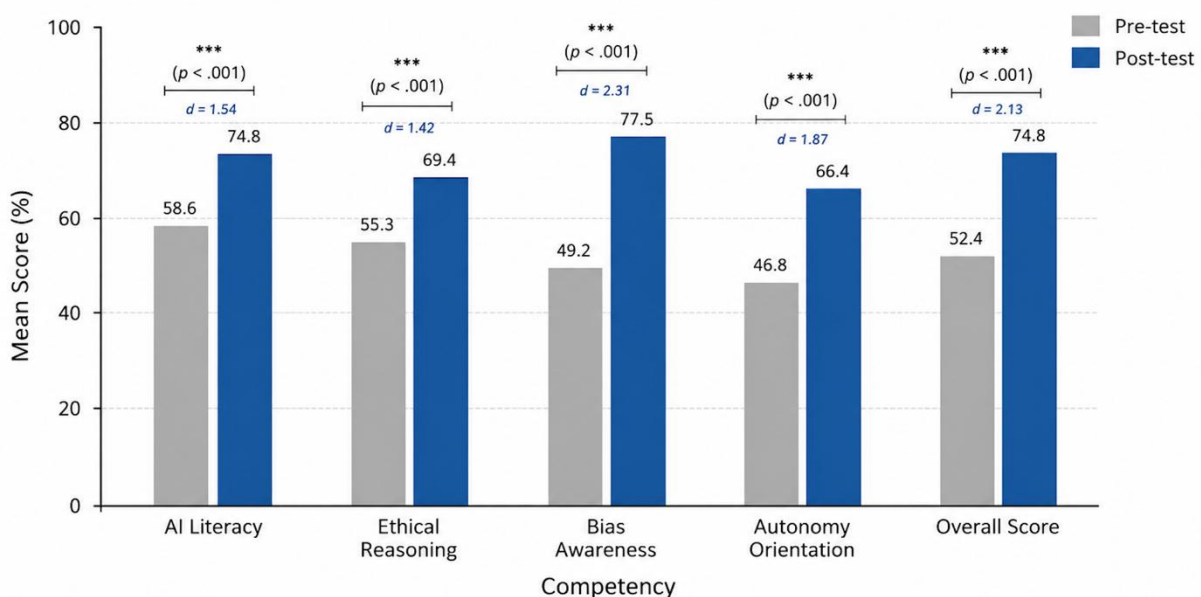


Figure 01: Changes in Ethical Decision-Making Competence

The results indicate statistically significant gains across all measured dimensions. The largest improvement occurred in bias awareness, suggesting that the participants became considerably more capable of recognizing how AI systems may privilege particular linguistic and epistemological norms.

These results are consistent with and extend prior findings on AI ethics education outcomes. Floridi et al. (2021) and Selwyn (2022) have argued that structured educational interventions can significantly improve students' capacity for critical ethical reasoning about AI, but evidence from multilingual, non-Anglophone contexts has been limited. The magnitude of the effect sizes observed in the present study—particularly on bias awareness—may reflect the heightened salience of algorithmic bias for students who experience its effects directly in their own multilingual research practice, as opposed to studying it as an abstract concept. This interpretation aligns with Mezirow's (1991) transformative learning theory, which holds that learning is deepest when it disrupts and reorganizes existing meaning frameworks through engagement with disorienting dilemmas—in this case, the discovery that the AI tools students had trusted were systematically biased against their own linguistic practices.

Interview data revealed a substantial shift in students' understanding of AI technologies. Prior to the intervention, many participants viewed AI-generated outputs as objective and neutral. Following the workshops, students reported increased awareness of the cultural assumptions embedded in AI systems.

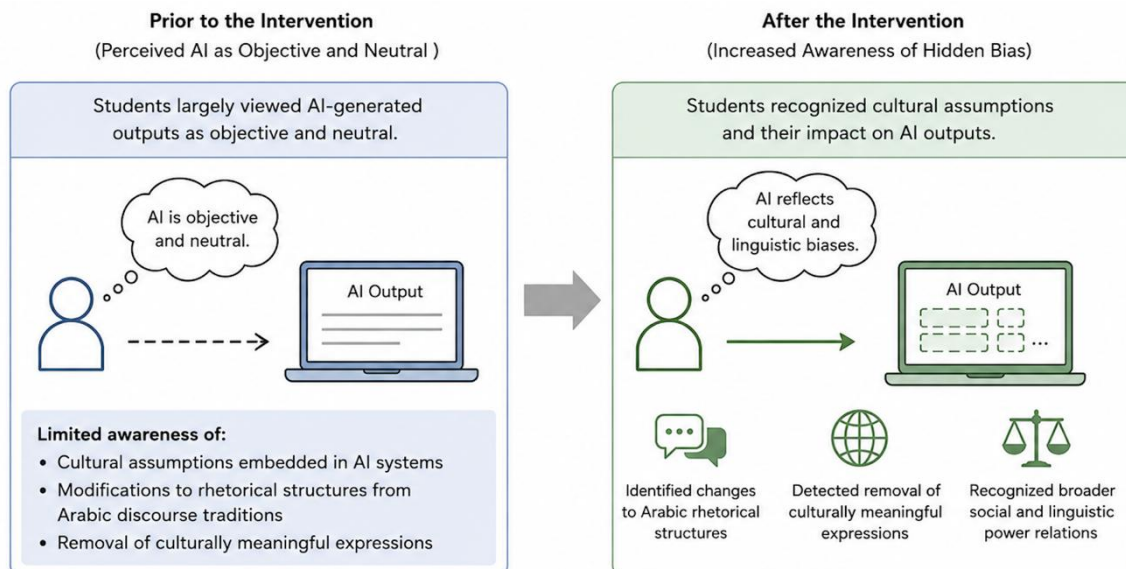


Figure 02: Students Understanding of Algorithmic Bias Pre and Post Intervention

Participants frequently identified instances in which AI tools modified rhetorical structures originating from Arabic discourse traditions or removed culturally meaningful expressions from the text.

This theme suggests that ethical AI literacy involves not only understanding technological limitations but also recognizing how technologies reflect broader social and linguistic power relations.

"I always thought Grammarly was just correcting my mistakes. After the workshop, I realized it was also correcting things that were not mistakes—it was correcting the way I think, the way I organize ideas in Arabic, and pushing me toward a way of writing that feels foreign to me." (Participant 12, translated from Algerian Arabic and French)

This finding resonates powerfully with Canagarajah's (2013) analysis of Anglophone research monoculture and Lillis and Curry's (2010) documentation of the invisible constraints imposed on

multilingual scholars by Anglophone publishing conventions. It extends these analyses by demonstrating that AI tools function as a new and particularly insidious vector for these constraints—insidious because they present their interventions as objective, neutral corrections rather than as culturally situated judgments.

The classroom observation data corroborated the interview findings. During the bias detection workshops, the students systematically identified AI-generated corrections that erased Arabic rhetorical structures (particularly patterns of parallel elaboration and invocation of collective authority), replaced Tamazight-inflected conceptual framings with Anglophone equivalents, and standardized French-Arabic code-mixed formulations into monolingual English. These observations align with Hovy and Spruit's (2016) theoretical analysis of social bias in Natural Language Processing (NLP) and with empirical work by Blodgett et al. (2020), who demonstrate that NLP systems consistently perform worse on text from African American Vernacular English speakers—a finding that extends, by implication, to other non-dominant language varieties.

Before the intervention, participants also reported their extensive reliance on AI systems. 87% of them used AI tools daily in their research activities, primarily for translation (DeepL), grammar correction (Grammarly), and information synthesis (ChatGPT). Many students described accepting AI outputs with minimal evaluation. After the intervention, students increasingly adopted verification practices such as cross-checking references, comparing multiple AI outputs, consulting peer-reviewed sources, and extensively revising AI-generated content.

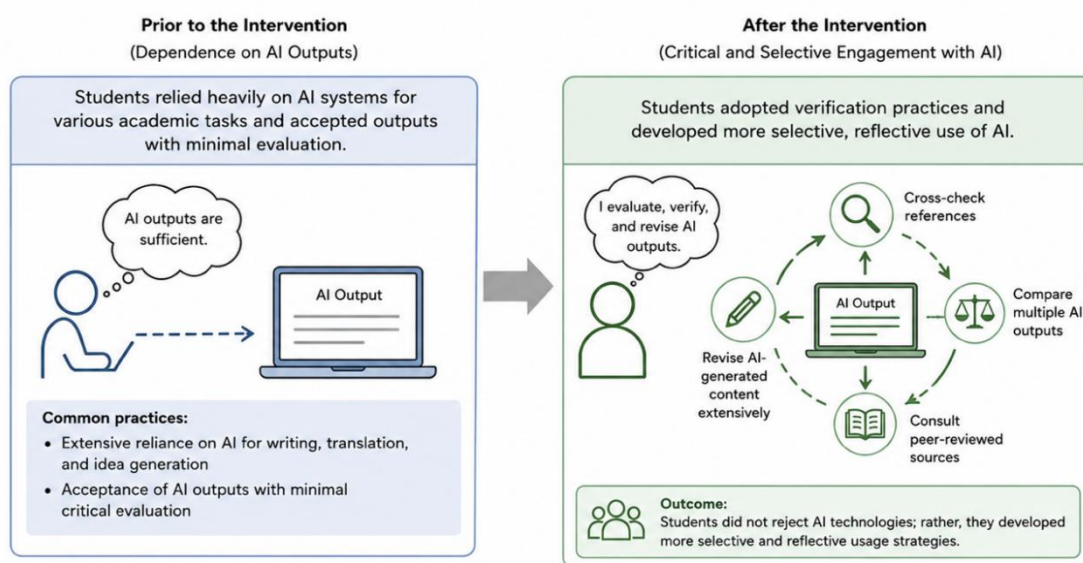


Figure 03: Changing Patterns of AI Use: From Dependence to. Critical Engagement

Rather than rejecting AI technologies altogether, participants developed more selective and reflective usage strategies. Post-intervention interviews revealed a consistent pattern of what might be called calibrated appropriation: students described retaining AI tool use for tasks where the tools' affordances clearly outweighed their risks (e.g., checking specific grammatical constructions in English), while withdrawing AI involvement from higher-stakes epistemic activities (e.g., formulating research hypotheses, interpreting data, and drawing theoretical conclusions). This pattern aligns with Long and Magerko (2020) identification of evaluative AI literacy—the capacity to assess when AI tool use is appropriate, beneficial, and ethically acceptable.

The concept of calibrated appropriation also resonates with Luckin's (2018) argument for what she calls intelligent book—a model of human-AI collaboration in which AI systems function as cognitive scaffolds that support and extend human intelligence rather than replacing it. The present findings suggest that structured ethical education can move student researchers from patterns of uncritical AI dependence toward more sophisticated human-AI collaboration practices—a transition that benefits both their research quality and their development as autonomous scholars.

The question of authorship emerged as one of the most frequently discussed ethical concerns, which 71% of the participants described as extensive AI involvement in the research and writing process.

"When I read back a paragraph that I wrote with a lot of AI help, I sometimes cannot tell which ideas are mine and which came from the machine. It feels like my voice has been diluted. How do I put my name on something that is partly not mine?"
(Participant 23, translated from Algerian Arabic)

Many participants expressed uncertainty regarding the ownership of AI-assisted writing. Students described situations in which AI-generated text appeared academically sophisticated yet felt disconnected from their own intellectual voice. Participants repeatedly emphasized the importance of maintaining intellectual ownership of ideas while using AI as a support tool rather than a substitute for critical thinking. This concern extended beyond plagiarism to broader questions of scholarly identity. This finding connects to Norton's (2013) concept of identity investment in language learning and to Archer's (2007) sociological analysis of inner conversation as the mechanism through which individuals develop and maintain their sense of agency and identity. If AI tools interrupt or colonize the inner conversation through which researchers develop and refine their ideas, the result may be a form of cognitive and epistemic alienation that goes beyond the scope of conventional academic integrity frameworks. Addressing this concern requires not only disclosure policies but pedagogical interventions that help researchers develop and protect their capacity for autonomous intellectual engagement—precisely the goal of the Algerian AI Ethics Triad framework.

The final theme involved participants' preference for collaborative, rather than replacement-oriented, models of AI use.

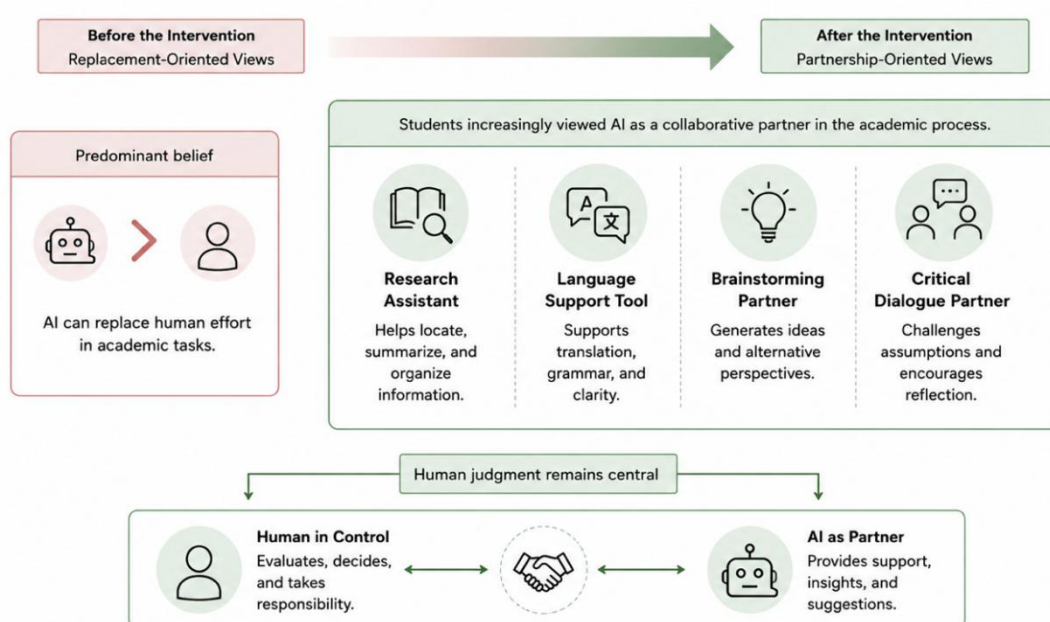


Figure 04: Emergence of Human-AI Partnership Models

The interview and observation data consistently pointed towards a mode of AI use in which human judgment remains primary and AI assistance is systematically subordinated to human intellectual agency. This concept, which emerged inductively from the qualitative data, closely maps onto theoretical formulations of human-centered AI (Shneiderman, 2022) and reflects a sophisticated ethical position that neither rejects AI tools nor uncritically embraces them. Students increasingly conceptualized AI as a research assistant, a language support tool, a brainstorming partner, and a critical dialogue partner. However, they consistently emphasized the importance of maintaining personal research journals that documented their thinking process independently of AI tools; using AI outputs as a starting point for critical engagement rather than an endpoint for acceptance; regularly submitting AI-generated text to peers for evaluation of cultural and epistemic authenticity; and developing personal ethical checklists for AI use that went beyond institutional requirements. These practices represent a form of what Floridi et al. (2021) call value-sensitive design applied at the individual level—the proactive integration of ethical values into technology use through deliberate practice and reflective habit, which reflects a growing commitment to responsible human-AI collaboration rather than technological dependence.

5. The Algerian AI Ethics Triad

The findings of this study support the development of a contextually grounded framework for ethical AI use in multilingual academic environments. Existing AI ethics guidelines provide valuable general principles; however, many remain insufficiently responsive to the linguistic, cultural, and epistemological realities of researchers working in multilingual postcolonial contexts. The Algerian AI Ethics Triad was developed to address this gap by integrating global ethical principles with the specific challenges experienced by AI use in multilingual hypothesis-driven research. The framework is organized around three interdependent principles:

Transparency refers to the explicit disclosure and documentation of AI use throughout the research process. Rather than merely indicating that AI tools were used, researchers should clearly identify which AI systems were employed; the purpose of their use; the stages of the research process affected; and the extent to which outputs were modified by the researcher. The Transparency principle aligns with the convergent theme of transparency identified by Jobin et al. (2019) in their global review of AI ethics guidelines and with the disclosure recommendations advanced by Hosseini et al. (2023) in response to the ChatGPT authorship challenge. Its distinctive contribution in the Algerian context is the emphasis on transparency not only about the fact of AI use but about the evaluative process through which researchers maintain intellectual sovereignty over AI-assisted work—a dimension of transparency that is particularly important when AI tools are systematically biased against researchers' own linguistic and cultural frameworks.

Cultural Relevance emphasizes that AI systems should be evaluated not only according to technical performance but also according to their capacity to respect linguistic diversity and local knowledge traditions. This principle operationalizes what Fricker (2007) calls the value of epistemic justice—the recognition that researchers from non-Anglophone traditions have legitimate claims to produce scholarship within their own knowledge frameworks, not merely as imperfect approximations of Anglophone norms. Cultural Relevance therefore requires researchers to critically evaluate whether AI outputs preserve local meanings, respect multilingual discourse practices, represent culturally grounded knowledge accurately,

and avoid imposing external epistemological norms. By doing so, institutions can contribute to greater epistemic justice and protect intellectual diversity within academic research.

Human Primacy constitutes the central pillar of the framework. While AI technologies can assist with information processing, language support, and idea generation, responsibility for scholarly reasoning must remain fundamentally human. Human Primacy aligns with Shneiderman's (2022) concept of human-centered AI and with Luckin's (2018) vision of AI as intelligent scaffolding that supports human learning and cognition. Its implementation in pedagogical contexts involves comparative human-machine hypothesis testing exercises, which cultivate students' ability to use AI as a dialogic interlocutor rather than an authority to be followed. Research involves interpretation, judgment, creativity, and ethical responsibility. These dimensions cannot be delegated entirely to algorithmic systems. Universities should design assessment practices that reward critical thinking rather than merely polished outputs.

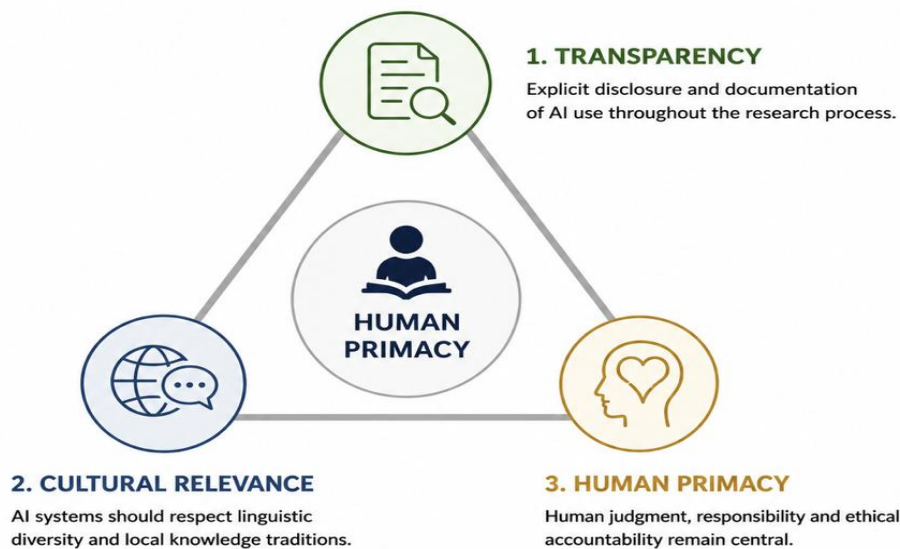


Figure 05: *The Algerian AI Ethics Triad*

6. Recommendations and pedagogical implications

The findings underscore the need to integrate AI ethics as a core component of graduate research methodology curricula. Rather than responding reactively to the growing use of AI, universities should adopt proactive educational approaches that develop students' competencies in ethical decision-making, algorithmic bias awareness, AI literacy, academic integrity, and responsible human–AI collaboration. Importantly, AI ethics education should be contextualized to local linguistic, cultural, and academic realities instead of relying exclusively on frameworks developed in Anglophone contexts.

This study also highlights the importance of institutional policies that promote responsible AI use rather than restrictive or surveillance-based approaches. Higher education institutions should establish clear governance frameworks that include mandatory AI disclosure, guidelines for acceptable AI use, training for students and teachers, procedures for verifying AI-assisted work, and measures to protect multilingual scholarly practices. Such policies would align Algeria with emerging international discussions on AI governance and linguistic equity. The UNESCO Recommendation on the Ethics of Artificial Intelligence (UNESCO, 2021), adopted by all member states, including Algeria, includes explicit provisions for protecting cultural diversity and linguistic rights in AI systems.

Finally, although the proposed Algerian AI Ethics Triad was developed within the Algerian higher education context, its principles have broader relevance for multilingual universities across the Middle East and North Africa (MENA). Given the region's shared characteristics, including linguistic diversity, postcolonial educational traditions, increasing international publication demands, and rapid AI adoption. The framework offers a contextually grounded model for ethical AI governance. As such, it provides a foundation for developing culturally responsive policies and educational practices that support innovation while preserving academic integrity and intellectual diversity.

7. Conclusion

Artificial intelligence is rapidly transforming the landscape of academic research. While these technologies offer unprecedented opportunities to improve efficiency, accessibility, and scholarly productivity, they also introduce significant ethical challenges that require careful consideration.

This study demonstrates that structured AI ethics education can substantially enhance multilingual EFL students' ethical decision-making abilities, awareness of algorithmic bias, and commitment to intellectual autonomy. The findings further reveal that AI technologies are not neutral tools but sociotechnical systems shaped by particular linguistic, cultural, and epistemological assumptions.

In response to these challenges, this study proposed the Algerian AI Ethics Triad, a framework built upon the principles of transparency, cultural relevance, and human primacy. The framework offers a practical model for responsible AI integration within multilingual academic environments and provides guidance for educators, researchers, institutions, and policymakers.

The present study has several limitations that should be acknowledged. The single-site, single-instructor design limits generalizability, and the relatively short duration of the intervention (12 weeks) may not capture the full extent of attitudinal and behavioral change that longer-term engagement with AI ethics education could produce. Future research should employ multi-site designs, include longitudinal follow-up measures, and investigate the organizational and policy conditions that support or hinder the implementation of AI ethics frameworks in diverse MENA institutional contexts.

Future studies should explore several important areas, such as teachers perspectives towards ethical AI integration within research training, the effectiveness of institutional AI governance policies, or the longitudinal effect of the investigation to examine whether the gain in ethical awareness persists beyond the immediate intervention period.

Therefore, the challenge for contemporary academia is not whether AI should be used but how it can be used responsibly while safeguarding the diversity, authenticity, and integrity of scholarly inquiry.

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Towards AI-Supported Research Design in Education: Simulating Experimental Conditions in Humanities

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Abstract

Recent developments in artificial intelligence (AI) have introduced innovative possibilities for enhancing research methodology in education and the humanities. This study proposes an AI-based simulation model for educational experiments, where experimental conditions are virtually constructed and tested before being implemented in the real world. The main objective is to explore how AI tools can support researchers in designing more efficient, valid, and reliable experimental studies in EFL contexts. The proposed model replaces traditional pre-experimental preparation with a virtual experimental environment supported by multiple AI systems. First, the simulation of participants is achieved through agent-based modeling tools such as NetLogo, which allows the creation of virtual student profiles with varying cognitive, motivational, and emotional intelligence characteristics. These AI-generated agents replicate learner diversity, enabling researchers to observe potential behavioral patterns under different instructional conditions. Second, the simulation of teaching conditions and instructional interventions is supported by platforms such as AnyLogic, which enables the modeling of complex classroom environments and pedagogical scenarios. Through this system, different teaching strategies focusing on the development of emotional intelligence, such as emotion recognition tasks, reflective activities, and AI-assisted emotional awareness training, can be tested in a controlled virtual space, allowing researchers to manipulate variables and examine interaction patterns between learners and instructional designs. Third, the simulation of research outcomes and predictive analysis is conducted using machine learning and statistical environments such as Google Colab (Python), where predictive models estimate learner autonomy, engagement, and performance levels based on simulated data. These predictions help researchers anticipate potential results and refine their experimental design before conducting actual fieldwork. The integration of these tools creates a structured AI-supported simulation framework that enhances methodological decision-making, reduces experimental limitations, and improves research validity. The study concludes that AI-based simulation does not replace empirical experimentation but serves as a powerful preparatory stage that strengthens the design and rigor of educational research.

Keywords: Artificial Intelligence in Education, Experimental Design, Simulation-Based Research, Human Sciences.

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1. Introduction

Artificial intelligence (AI) has emerged as one of the most transformative technologies of the 21st century, reshaping sectors such as healthcare, business, engineering, and education. In educational contexts, AI supports teaching, learning, assessment, and decision-making through technologies, including machine learning, intelligent tutoring systems, learning analytics, and natural language processing (Luckin et al., 2016; Russell & Norvig, 2021). These innovations have enhanced personalized learning, learner engagement, and instructional effectiveness, positioning AI not only as a pedagogical tool but also as a catalyst for advancing educational research (Holmes et al., 2019).

Educational research has traditionally relied on empirical experimentation to evaluate instructional interventions and establish causal relationships between variables (Creswell & Creswell, 2018). However, experimental studies often face methodological challenges related to participant recruitment, ethical considerations, financial constraints, and the difficulty of controlling multiple variables, particularly in English as a Foreign Language (EFL) contexts, where learner outcomes are shaped by cognitive, emotional, motivational, and social factors (Cohen et al., 2018; Dörnyei & Ryan, 2015).

Recent advances in computational technologies have promoted the use of simulations for modeling real-world systems and predicting outcomes under controlled conditions (Banks et al., 2010). Combined with agent-based modeling, predictive analytics, and large language models (LLMs), AI-supported simulation enables virtual agents to demonstrate adaptive reasoning and realistic interactions, expanding their potential for modeling complex educational systems and supporting innovative research methodologies (Bonabeau, 2002; Gao et al., 2024).

Despite these developments, the use of AI-supported simulation as a preparatory research design tool remains largely unexplored in educational and humanities research. Existing studies have primarily examined AI as a teaching and learning technology and simulation as an instructional environment (Holmes et al., 2022; Zawacki-Richter et al., 2019). More recent research has explored AI-enhanced agent-based modeling and computational educational research to simulate educational systems and learner interactions (Gao et al., 2024; Vulić et al., 2024). However, comparatively little attention has been devoted to employing AI-supported simulation as a methodological framework for designing, testing, and refining educational experiments before empirical implementation. As a result, researchers often move directly from theoretical planning to empirical experimentation without first evaluating the feasibility and effectiveness of their proposed designs. As a result, researchers often move directly from theoretical planning to empirical experimentation without first evaluating the feasibility and effectiveness of their proposed designs.

This methodological gap is particularly relevant in EFL research involving complex constructs, such as emotional intelligence. Emotional intelligence influences learner motivation, communication, emotional regulation, classroom participation, and academic achievement (Mayer et al., 2016; Gkonou et al., 2021). However, interventions targeting emotional intelligence are difficult to design and assess because emotional processes are dynamic and context-dependent.

To address this challenge, the present study proposes an AI-supported simulation framework that integrates NetLogo for agent-based modeling, AnyLogic for classroom simulation, and Google Colab for predictive analytics. The framework enables researchers to simulate learner populations, instructional interventions, and potential outcomes before conducting real-world experiments. By reconceptualizing AI as a methodological collaborator rather than solely a teaching tool, this study aims to enhance research design, improve validity and reliability, and reduce methodological, financial, and ethical constraints. Accordingly,

it addresses three questions: How can AI support the design of educational experimental research? To what extent can digital simulation represent real educational environments? And how can AI-based simulation models improve the validity and reliability of educational research outcomes?

2. Literature review

2.1. General Background on Artificial Intelligence in Educational Research

Artificial intelligence (AI) has become a transformative technology across numerous sectors, including education. Defined as systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, and decision-making, AI has advanced considerably through developments in machine learning, natural language processing, and predictive analytics (Russell & Norvig, 2021). Within education, AI has evolved from simple computer-assisted instruction to supporting personalized learning, intelligent tutoring systems, learning analytics, and automated assessment (Luckin et al., 2016; Holmes et al., 2019). More recently, generative AI has expanded these applications by assisting with content creation, automated feedback, and academic research (Kasneci et al., 2023).

Beyond teaching and learning, AI is increasingly being integrated into computational modeling and scientific research. The combination of large language models (LLMs) with agent-based modeling has enabled AI agents to simulate human reasoning, communication, and adaptive behavior more realistically than traditional rule-based systems (Gao et al., 2024). Consequently, AI has evolved from a pedagogical technology into a methodological resource that can support the design and evaluation of complex educational systems. This transformation is equally evident in the Digital Humanities, where computational tools have enriched disciplines such as linguistics, translation studies, literature, and cultural studies, expanding opportunities for data-driven research and knowledge production (Berry, 2012).

2.2. The Evolution of Research Methodologies in the Humanities

Research methodologies in the humanities have evolved from predominantly qualitative and interpretive approaches toward increasingly interdisciplinary and computational paradigms. Traditional methods, including textual analysis, historical inquiry, and critical interpretation, remain fundamental to humanities research (Denzin & Lincoln, 2018). However, the influence of the social sciences has introduced empirical methodologies such as surveys, interviews, and statistical analyses, particularly within education and applied linguistics (Creswell & Creswell, 2018).

The emergence of Digital Humanities has further accelerated methodological innovation by enabling researchers to analyze extensive textual, linguistic, and cultural datasets through computational techniques (Burdick et al., 2016). More recently, AI has strengthened this transition by facilitating pattern recognition, automating analytical tasks, and generating predictive insights, thereby promoting interdisciplinary and data-driven research (Blei & Smyth, 2017). Building on these developments, computational educational research conceptualizes educational environments as complex adaptive systems in which learners, teachers, and contextual variables interact dynamically. Through multilevel agent-based modeling, researchers can investigate these interactions across multiple levels, providing deeper insights into educational processes and strengthening evidence-informed research design (Vulić et al., 2024).

2.3. The Role of Simulation in Educational Experimental Studies

Simulation has become an important methodological approach for examining complex systems and predicting outcomes under controlled conditions. By creating virtual representations of real-world environments, simulation enables researchers to test hypotheses, evaluate alternative scenarios, and reduce the costs and risks associated with empirical experimentation (Banks et al., 2010). Its successful application in engineering, healthcare, and economics has encouraged its increasing adoption in educational research (Aldrich, 2009).

One of the most significant advances in simulation research is agent-based modeling (ABM), which enables the creation of virtual agents representing learners with diverse cognitive, motivational, and emotional characteristics (Bonabeau, 2002). When combined with predictive analytics and machine learning, these models provide valuable insights into learner behavior and potential research outcomes before field implementation (Géron, 2022). Recent developments integrating LLMs with agent-based systems have further enhanced simulation realism by enabling AI agents to demonstrate autonomous reasoning, adaptive decision-making, and context-aware interactions (Gao et al., 2024).

These developments are particularly valuable in EFL research, where variables such as motivation, emotional intelligence, learner engagement and autonomy are difficult to control experimentally. AI-supported simulations offer researchers a preparatory stage for refining instructional interventions, anticipating methodological challenges, and strengthening experimental validity and reliability. Extending recent advances in AI-enhanced agent-based modeling, this study proposes a framework that employs computational simulation not merely to model educational systems but to optimize the design of educational experiments before empirical implementation.

3. Methodology

3.1 Research Type

This study employs a theoretical and applied simulation-based research design. It is theoretical because it proposes an AI-supported framework for educational experimentation and applied because it demonstrates the use of AI tools, such as NetLogo, AnyLogic, and Google Colab, in research design. The study uses simulation to model learners, instructional conditions, and potential outcomes in a virtual environment, enabling researchers to test and refine experimental designs before conducting real-world studies.

3.2. Proposed Research Model

This study adopts an AI-supported experimental design framework that enables virtual testing and refinement of educational interventions before their implementation in real-world settings. The framework integrates agent-based modeling, classroom simulation, and predictive analytics to create a controlled virtual environment in which learner characteristics, instructional conditions, and potential research outcomes can be simulated and analyzed. By allowing researchers to examine different experimental scenarios prior to fieldwork, the framework supports more informed methodological decision-making and helps identify potential limitations in research design (Banks et al., 2010). Drawing on advances in artificial intelligence and simulation technologies, this approach aims to enhance the validity, reliability, and efficiency of educational experiments while reducing the practical and ethical constraints associated with traditional experimentation (Holmes et al., 2022; Gilbert & Troitzsch, 2005).

Case Scenario: An EFL researcher wishes to investigate whether an AI-assisted emotional intelligence training program improves university students' speaking performance, learner engagement, and autonomy over an eight-week intervention.

Emotional intelligence was selected as the focus of the illustrative case scenario because it represents one of the most complex constructs in EFL research, encompassing interacting cognitive, affective, motivational, and social dimensions that are difficult to control and evaluate using conventional experimental designs (Mayer et al., 2016; Gkonou et al., 2021). Its multidimensional nature makes it particularly suitable for demonstrating how AI-supported simulations can model learner diversity, instructional interventions, and potential research outcomes before empirical implementation.

This illustrative case scenario serves as a proof of concept to demonstrate the practical application of the proposed AI-supported simulation framework. Rather than reporting empirical findings, it provides a methodological example of how the framework can be implemented to simulate participants, instructional environments, and predicted research outcomes before conducting real-world experiments. The use of illustrative scenarios is a recognized approach in conceptual and methodological research, as it enables researchers to explain, validate, and operationalize proposed frameworks through realistic applications, while laying the foundation for future empirical investigations (Jaakkola, 2020; Gregor & Hevner, 2013).

3.3.Components of the Model

The proposed AI-supported simulation framework consists of three interconnected components that collectively replicate the main stages of an educational experiment in a virtual environment. The first component focuses on simulating participants by creating virtual learner profiles with diverse cognitive, motivational, and emotional traits. The second component simulates instructional environments, allowing different teaching strategies and classroom conditions to be modeled and tested. The third component employs machine learning techniques to predict potential research outcomes based on simulated data. Together, these components provide researchers with a systematic framework for evaluating and refining experimental designs before real-world implementation, thereby enhancing their methodological rigor, validity, and reliability (Banks et al., 2010; Holmes et al., 2022).

3.3.1. Simulation of Participants

Instead of immediately recruiting students, the researcher first created a virtual cohort of learners using NetLogo. Suppose that the planned experiment involves 120 first-year Algerian EFL students. The model generated 120 virtual agents representing these learners. Each agent is assigned attributes based on values commonly reported in EFL research, such as

- English proficiency (A2–B2)
- Motivation (low, medium, high)
- Emotional intelligence score
- Speaking anxiety
- Learning autonomy
- Attendance probability

Table 1. Illustrative Profiles of AI-Generated Virtual Learners in the NetLogo Simulation

Agent	Proficiency	Motivation	EI	Anxiety
Student 1	B1	High	85	Low
Student 2	A2	Low	46	High
Student 3	B2	Medium	71	Moderate

Simulation allows virtual learners to interact according to predefined behavioral rules. Highly motivated learners may participate more frequently in classroom discussions, whereas learners with higher anxiety may avoid speaking tasks. These behavioral rules enable the researcher to examine whether the planned sample is sufficiently heterogeneous and whether participant characteristics are likely to influence the intervention (Bonabeau, 2002).

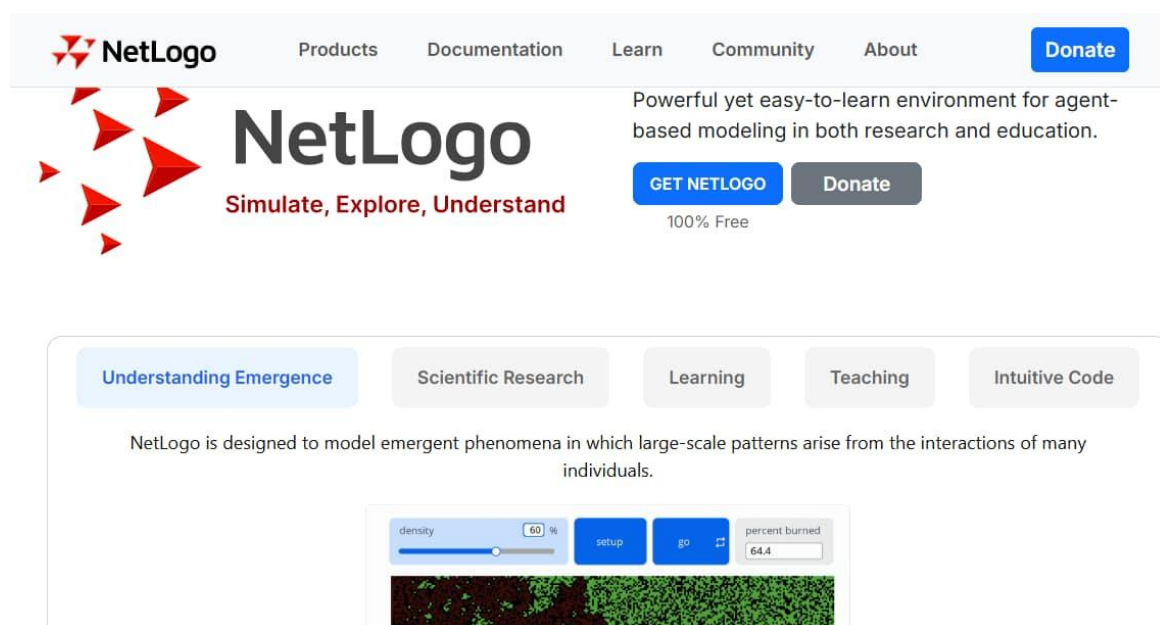


Figure 1. NetLogo Platform for Agent-Based Simulation of Virtual Learners

3.3.2. Simulation of Instructional Environments

The second stage focuses on modeling the classroom using AnyLogic. The researcher created two virtual classes:

- Experimental group
- Control group

Both classes received identical English lessons over eight simulated weeks.

However, only the experimental group received emotional intelligence activities, such as:

- AI-supported emotion recognition exercises
- Reflective digital journals
- Peer-feedback discussions
- Self-regulation prompts generated by AI.
- Collaborative speaking tasks were also included.

AnyLogic simulates classroom interactions, including:

- Absenteeism,
- Participation rates,
- Teacher feedback,
- Group dynamics,
- Classroom engagement.

Researchers can modify variables such as class size, teaching pace, or activity frequency to determine which instructional design is most likely to produce positive outcomes before implementing the real experiment (Borshchev, 2013).

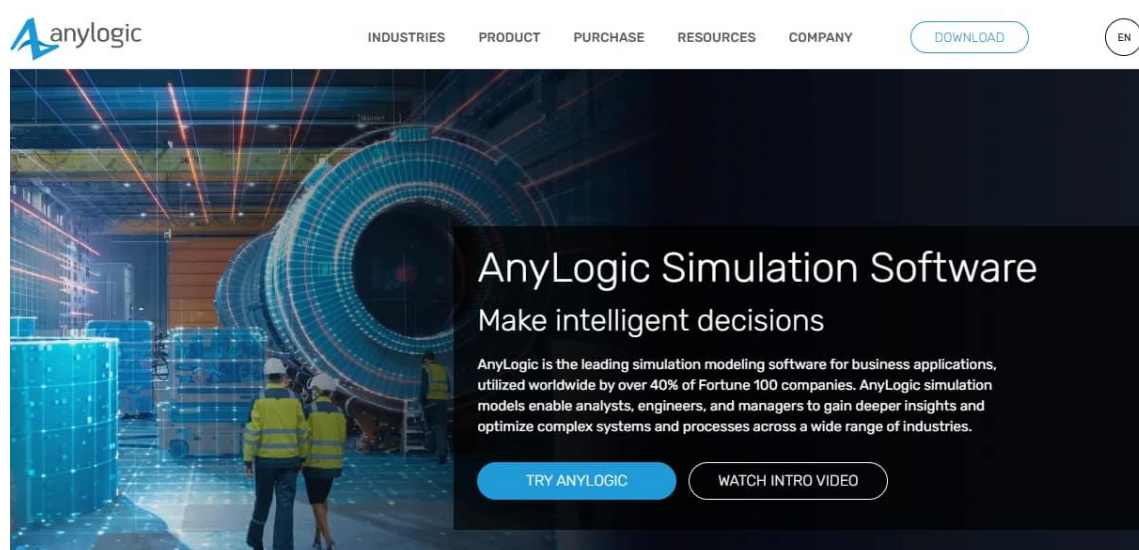


Figure 2. AnyLogic Platform for Simulating Instructional Environments

3.3.3. Predictive Analysis of Outcomes

The simulated data generated from NetLogo and AnyLogic are exported to Google Colab, where machine learning algorithms estimate possible research outcomes. For example, a random forest model may predict that:

NOTE: The numerical values presented in this section are illustrative simulation outputs intended to demonstrate the predictive capabilities of the proposed AI-supported framework. These are not empirical findings derived from real participants.

Table 2. Illustrative Predictive Outcomes Generated by the AI-Supported Simulation Framework

Variable	Predicted Change
Speaking performance	+16%
Emotional intelligence	+18%
Learner engagement	+21%
Learning autonomy	+14%

Feature importance analysis further indicated that emotional intelligence and learner motivation were the strongest predictors of speaking improvement, whereas attendance had a smaller effect.

These predictions were not considered empirical findings. Rather, they help researchers identify potential weaknesses in the experimental design. If the model predicts minimal improvement under certain conditions (e.g., low attendance or insufficient intervention duration), the researcher can revise the design before recruiting the participants. This iterative process enhances the efficiency, validity, and reliability of the planned study while reducing unnecessary costs and ethical risks associated with ineffective interventions (Banks et al., 2010; Geron, 2022).

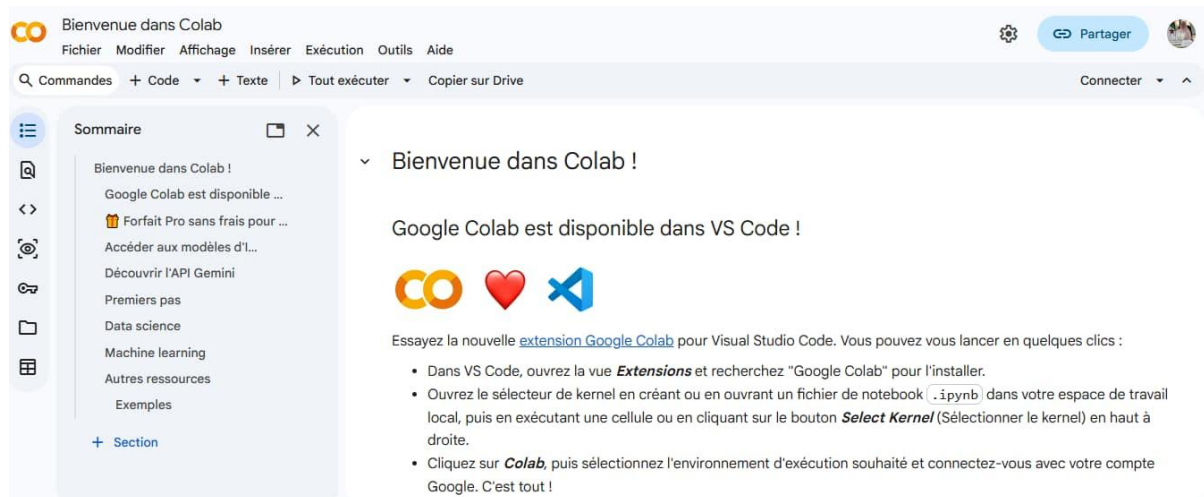


Figure 3. Google Colab Environment for Predictive Learning Analytics and Machine Learning

3.4 Analytical Tools

The proposed framework employs three complementary analytical tools to support the virtual design and evaluation of educational experiments.

- **Computational Modeling:** Agent-based and simulation modeling techniques are used to represent learner behaviors, classroom interactions, and instructional scenarios within a virtual environment. These models enable researchers to examine the effects of different experimental conditions before they are implemented in the field (Banks et al., 2010; Bonabeau, 2002).
- **Artificial Intelligence Systems:** AI tools, including NetLogo for agent-based modeling and AnyLogic for classroom simulation, are integrated to construct realistic educational environments and simulate learner diversity and instructional interventions (Wilensky, 1999; Borshchev, 2013).
- **Predictive Learning Analytics:** Machine learning techniques implemented in Google Colab (Python) were used to analyze simulated datasets and predict potential outcomes, such as learner engagement, autonomy, emotional intelligence development, and academic performance. These predictive analyses support methodological decision-making and refinement of experimental designs prior to empirical implementation (Geron, 2022; Siemens & Baker, 2012).

To further illustrate the methodological contribution of the proposed framework, Table 1 compares a conventional experimental design with the AI-supported simulation framework. The comparison highlights how the proposed approach transforms the three principal stages of educational experimentation—participant preparation, instructional implementation, and outcome evaluation—through AI-assisted simulations and predictive analytics.

Table 3. Comparison Between Traditional Experimental Design and the Proposed AI-Supported Simulation Framework

Research Stage	Traditional Design	AI-Supported Framework
Participants	Recruit real participants.	Simulate diverse learner profiles using NetLogo .
Instruction	Implement interventions directly in the classroom.	Test instructional strategies virtually using AnyLogic .
Outcomes	Analyze results after data collection.	Predict outcomes using Google Colab (Python) before implementation.

The comparison presented in Table 1 illustrates how AI-supported simulations extend conventional experimental planning by introducing a virtual pre-experimental stage. The following section discusses the methodological outcomes derived from applying this framework to the illustrative EFL case study in this research.

4. Findings

The application of the proposed AI-supported simulation framework produced a structured virtual environment for designing and evaluating educational experiments prior to their real-world implementation. Using the illustrative case scenario of an eight-week AI-assisted emotional intelligence programme for university EFL students, the framework integrated agent-based modeling, classroom simulation, and predictive learning analytics to evaluate the proposed experimental design. The simulation enabled the examination of participant characteristics, instructional interventions, and potential learning outcomes before recruiting participants or conducting classroom instruction, thereby strengthening the methodological planning and decision-making (Banks et al., 2010; Holmes et al., 2022).

4.1. Improvement of Experimental Research Design Quality

The simulation improved the overall quality of the proposed experimental design by identifying methodological refinements prior to implementation. In the case scenario, the virtual environment revealed that an eight-week intervention with one weekly session generated more stable learner interactions than a shorter four-week programme. Similarly, the simulation indicated that combining AI-assisted emotion recognition activities with reflective journals and collaborative speaking tasks produced a more balanced instructional sequence than relying on a single intervention. These observations enabled the researcher to refine the instructional design before conducting the actual experiment, thereby improving the coherence and feasibility of the research protocol (Creswell & Creswell, 2018).

4.2. Reduction of Methodological Constraints in Field Research

Virtual simulations reduce several methodological constraints commonly encountered in educational research. Rather than immediately recruiting university students, obtaining institutional approval, and implementing the intervention, the researcher first evaluated the complete experimental design in a simulated setting. For example, different class sizes (30, 40, and 60 learners) and attendance rates were simulated to determine whether they influenced learner interactions and intervention delivery. This preliminary evaluation reduced unnecessary pilot testing and enabled methodological adjustments before field implementation, thereby saving time and research resources and supporting ethical experimentation (Cohen et al., 2018).

4.3. Enhanced Control of Experimental Variables

The framework provides greater control over experimental variables by allowing individual learner and classroom characteristics to be manipulated independently. In the illustrative scenario, NetLogo generated virtual learners with different English proficiency levels, motivations, emotional intelligence scores, and speaking anxiety. AnyLogic then simulated two instructional conditions: a control group receiving conventional speaking instruction and an experimental group participating in AI-assisted emotional intelligence activities. By modifying variables such as intervention duration, learner motivation, and classroom participation, the researcher was able to observe how these factors interacted before conducting the experiment. Such systematic control strengthens the internal consistency of the proposed research design (Banks et al., 2010; Bonabeau, 2002).

4.4. Support for Pre-Experimental Decision-Making

The framework supported methodological decision-making through the predictive analysis of simulated data. After generating learner interactions in NetLogo and classroom scenarios in AnyLogic, the simulated dataset was analyzed in Google Colab using machine learning algorithms. The predictive analysis suggested that learners displaying higher emotional intelligence and motivation achieved greater participation in speaking activities and higher levels of learner autonomy. These simulated predictions informed decisions regarding participant selection, intervention duration, assessment instruments, and the balance between individual and collaborative learning activities before the study entered the empirical phase (Géron, 2022; Siemens & Baker, 2012).

4.5. Increased Validity and Reliability of Educational Research

The integration of simulation and predictive analytics strengthened the methodological rigor of the proposed experiment by enabling the identification of weaknesses before implementation. In the case scenario, repeated simulation runs under identical experimental conditions produced consistent interaction patterns, indicating that the proposed research procedure was stable and reproducible. Furthermore, the framework allows multiple instructional scenarios to be compared before selecting the most appropriate design for field implementation. This iterative process enhanced the validity and reliability of the experimental protocol while preserving the essential roles of empirical experimentation. Consequently, AI-supported simulation functioned as a methodological bridge between theoretical planning and classroom implementation, particularly for complex EFL research involving emotional intelligence, learner engagement and autonomy (Banks et al., 2010; Cohen et al., 2018).

4.6. Limitations of the Study

Despite its methodological contributions, the proposed AI-supported simulation framework has several limitations. First, this study is conceptual and simulation-based; therefore, the framework has not yet been empirically validated in real-world educational settings. Future studies should examine its effectiveness in real-world classroom settings.

Second, although simulation tools can model learner diversity and classroom interactions, virtual agents cannot fully capture the complexity of human behavior, including spontaneous responses, social interactions, and contextual influences. Consequently, simulations should complement, rather than replace, empirical experimentation.

Finally, the accuracy of predictive analyses depends on the quality of the simulation models, the assumptions used to generate virtual data, and the machine learning algorithms employed. Reliable predictions, therefore, require carefully designed models and appropriate validation procedures.

4.7. Practical Implications

The proposed AI-supported simulation framework has practical implications for multiple stakeholders in educational research. For researchers, it provides a structured approach for designing, testing, and refining experimental studies before conducting fieldwork, thereby improving methodological planning and reducing potential design weaknesses. Early-career researchers may benefit from the framework as a decision-support tool that facilitates the development of more rigorous and evidence-informed research designs. Research centers can integrate AI-supported simulations into research methodology training, encouraging the adoption of innovative computational approaches in educational and humanities research. In addition, laboratories may employ this framework to develop and evaluate new instructional interventions within virtual environments before their implementation in authentic classrooms. By combining agent-based modeling, classroom simulation, and predictive learning analytics, the framework promotes more efficient, systematic, and data-informed educational experimentation, complementing rather than replacing traditional empirical research.

5. General Conclusion

This study proposed an innovative AI-supported simulation framework that reconceptualizes the role of AI in educational research. Rather than employing AI solely as a pedagogical tool, the framework positions it as a methodological collaborator capable of supporting the design, evaluation, and refinement of educational experiments before their implementation in authentic learning environments. By integrating agent-based modeling (NetLogo), classroom simulation (AnyLogic), and predictive learning analytics (Google Colab), the framework provides a structured virtual environment in which participant characteristics, instructional interventions, and potential research outcomes can be examined systematically.

The illustrative case scenario demonstrated how the framework can be applied to an EFL study investigating the impact of an AI-assisted emotional intelligence program on speaking performance, learner engagement, and autonomy. The simulation illustrated the potential of AI to strengthen methodological decision-making by refining participant selection, optimizing instructional conditions, controlling experimental variables, and supporting predictive analyses before field implementation. In doing so, the

framework bridges the gap between theoretical research planning and empirical experimentation, contributing to more rigorous, efficient, and evidence-based educational research.

The proposed framework also contributes to the growing convergence of artificial intelligence, digital humanities, and educational research methodology. As computational approaches become increasingly integrated into humanities research, AI-supported simulation offers a promising methodological innovation for investigating complex educational phenomena while reducing practical, financial, and ethical constraints associated with conventional experimentation. Importantly, the framework does not replace empirical research; instead, it functions as a preparatory stage that enhances the validity, reliability, and overall quality of experimental design.

The implications of this study extend to researchers, educators, and research institutions seeking to adopt innovative methods. Integrating AI-supported simulations into the research design process can improve planning, facilitate evidence-based decision-making, and reduce the risks associated with implementing inadequately tested interventions. The framework may be particularly valuable in EFL research and other humanities disciplines, where learner diversity, contextual factors, and human behavior make experimental studies inherently complex.

As this study presents a conceptual and simulation-based framework, future research should focus on its empirical validation in authentic educational settings. Comparative studies could investigate the effectiveness of AI-supported simulations against conventional experimental planning procedures, while additional research may explore the integration of more advanced generative AI systems, digital twins, large language models, and adaptive learning analytics to enhance the realism and predictive accuracy of educational simulations. Extending this framework to other disciplines within the humanities and social sciences would further establish its applicability and contribute to the development of next-generation AI-assisted research methodologies.

Ultimately, AI-supported simulation represents a paradigm shift in educational research methodology by enabling researchers to move from reactive experimental planning to proactive, evidence-informed experimental design.

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